

## Southern Nitrogen Announces \$14 Million Plant at Savannah

—See Photos on Page 22—

NEW YORK — Announcement of the construction of a \$14,000,000 petrochemical plant at Savannah, Ga., by Southern Nitrogen Co., for production of 250 tons per day of ammonia which it will convert into nitrogen solutions for fertilizer use, and prilled ammonium nitrate, was made Sept. 14 by John Riley, president of the company. Construction of the plant will be completed in the fall and it is expected to be in operation before the end of the year.

In addition to Mr. Riley, organizers of the company include Malcolm Smith, chairman of the board, and George V. Taylor, vice president.

The plant will provide for a completely integrated plant of the most modern type which will include an ammonia plant with a capacity of 250 tons a day and other units to produce nitric acid, urea, nitrogen solutions and fertilizer grade ammonium nitrate. (Continued on page 25)

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## Pasture Crops Seen as Best Potential Field for More Fertilizer Sales in Northeast

By JOHN CIPPERLY  
Croplife Washington Correspondent

WASHINGTON—Region-by-region analysis of the U.S. Department of Agriculture report on the maximum potential yields obtainable from major crops produced in the northeastern states, stretching all the way from Maine to the Atlantic Seaboard to West Virginia highlights the regional problems of the plant food and pesticidal industries. There is indication that the USDA study is somewhat defective because it fails to dovetail its findings into over-all USDA farm policies and thereby points up ideal situations which may not ultimately prevail.

But at the outset it is important to note that this particular regional report does pin-point plant food industry attention to an immediate or nearby market which might promise cash registration to the manufacturers and dealers serving these states.

Dairy, poultry and livestock operations represent the largest of the farming use of land in these states, totaling approximately 35 million acres. Of this over-all land use for farming about 23 million acres are devoted to the production of legume crops. (Continued on page 21)

## Farm Acreage Diversion Program Through Rental or Land Purchase Seen as Unlikely by USDA Officials

By JOHN CIPPERLY  
Croplife Washington Correspondent

WASHINGTON—This past week has seen wide currency to a rumor that Ezra Taft Benson, secretary of agriculture, would announce a farm acreage diversion program to remove millions of acres of land from crop production this coming year.

On his return from Europe last week Mr. Benson admitted that there have been studies of incentives to divert acreage from field crop production. But he assumed that the most practical approach would be one

wherein soil conservation payments might be the incentive or stimulus.

He stated that no decision would be forthcoming until after the next session of the U.S. Department of Agriculture National Agricultural Advisory Committee starting here Sept. 22.

Since the farm price situation now is becoming a major issue for the politicians, with some press reports indicating that the farm belt is in revolt against the Benson program, it may be appropriate to hear from

top policy makers at USDA on this problem.

It is clear from USDA reports that farm income has declined. It should be noted that this decline is from high peaks, which were stimulated following World War II by a world cereal crisis and by the Korean episode when buyers eagerly sought all kinds of food commodities.

But, notwithstanding, few if any of the farm politicians are willing to face up to the facts.

Farming is no longer a simple way of life. Farming is a large investment of cash and property. Fewer people are engaged in farming. The widely publicized visit of the Russian technicians to corn belt farm lands highlighted nothing if not the great production potential which U.S. farmers have reached—not through manual labor but through the intelligent use of farm machinery, fertilizers and pesticides.

Plant foods, pesticides and farm machinery are the instruments of the Ford, General Motors and Chrysler era. Factories are making available more pounds of steel at less cost per pound for general utility than any other activity that this nation has ever seen.

Compare for example the cost of shoeing a horse in 1910 with that (Continued on page 25)

## NAC Hears Miller Law Panel; Spring Meeting Set for Florida

SPRING LAKE, N.J.—A panel discussion on the Miller Amendment brought the 22nd annual meeting of the National Agricultural Chemicals Assn. to a close here Sept. 9. About 500 persons attended the three-day session.

The 1956 spring meeting of the association will be held March 14-18 at Hollywood Beach Hotel, Hollywood, Fla.

Reports of the Sept. 7 and Sept. 8 sessions of the Spring Lake meeting were contained in the Sept. 12 issue of Croplife. The final day's program, in addition to the panel discussion, included a talk by James

D. Hopkins, Hopkins Agricultural Chemical Co., Madison, Wis., on "NAC Services to Associate Members."

W. W. Allen, Dow Chemical Co., NAC president, introduced the Miller Amendment panel members the morning of Sept. 9. Those members were Lea S. Hitchner, NAC executive secretary, panel moderator; Winton B. Rankin, assistant to the commissioner, Food & Drug Administration, Department of Health, Education and Welfare; John T. Coyne, assistant head, Pesticide Regulation Section, Agricultural Research Service, U.S. Department of Agriculture; Dr. Charles E. Palm, head of the Department of Entomology at Cornell University, and John Conner, NAC counsel.

Mr. Coyne appeared in place of Dr. W. G. Reed, head of the Pesticide Regulation Section, USDA, who was ill.

Mr. Rankin, in opening remarks, praised the cooperation of the pesticide industry in working out the mechanics of operation of the Miller Amendment. He said that two paramount questions at this time

(Continued on page 6)

## Land O'Lakes Expanding Plant

MINNEAPOLIS — Land O'Lakes Creameries, Inc., has started a \$350,000 expansion program that will nearly double capacity of its fertilizer plant here. In addition, the firm will switch its production to a granular fertilizer.

The expansion will increase the plant's annual capacity from the present 40,000 tons to 75,000 tons, according to C. A. Johnson, general manager of the firm's Agricultural Services Division.

Phil Stocker, manager of the Fertilizer Dept., will be directly in charge of the new plant.

## Western Firm Constructing New Fertilizer Plant

BERKELEY, CAL.—The Western States Chemical Corp. will begin the manufacture of complete pelleted fertilizers in a new plant now under construction at Nichols, Cal.

The company has just been organized as a subsidiary jointly owned by three other fertilizer manufacturers in California: Pacific Guano Co. of Berkeley, Triangle Co. of Central California of Salinas, and the Wilbur-Ellis Co. of San Francisco. Sunland Industries of Fresno at one time was considering participation in the new enterprise but withdrew, and the Triangle Company has taken Sunland's place.

Joint announcements of the new firm have been made by the presidents of the three companies: William Hewitt of Pacific Guano, (Continued on page 25)

## New Fertilizer Firm Chartered in Kansas

OLATHE, KANSAS — Deep-Root Fertilizers, Inc., an Olathe firm, has been granted a state charter to manufacture and sell fertilizers. The firm has capitalization of \$177,100.

## EDITOR'S NOTE

This article is one of a series analyzing the potential farm chemical use in terms of crops and crop areas. Much of the material is based on a U.S. Department of Agriculture report, "Fertilizer Use and Crop Yields," released last December. For other articles in this series see page 1 of the Aug. 29 and page 1 of the Sept. 5 issues of Croplife.



## Improved Practices Show Large Benefits To Grassland Farming, Research Shows

WASHINGTON — A current research program of the U.S. Department of Agriculture, aimed toward more efficient use of forage crops, has come up with some important facts relating to pasture stand establishment and forage utilization.

Present-day emphasis on grassland farming has helped point up a too-casual attitude toward forage crops among some American farmers and livestock producers, USDA says. Many who would be acutely concerned because of a poor stand of wheat or corn can apparently look on a similarly poor forage stand with complacency.

Research now in its fourth year at USDA's Agricultural Research Center, Beltsville, Md., is showing that substitution of a few simple practices for seeding methods now commonly used can boost forage yields several times over in the first harvest.

In one experiment, cooperating agronomists and engineers compared broadcast seeding and fertilization with drill seeding and band fertilization. A tall-fescue and Ladino-clover mixture, seeded broadcast at the rate of 4 lb. tall fescue and 1 lb. Ladino per acre, and fertilized at the rate of 750 lb. 3-12-6 fertilizer per acre, yielded an average 817 lb. weed-free dry matter per acre in the initial harvest.

When the same mixture was drilled and fertilizer was banded one inch below the seed, per-acre yield of dry matter averaged 2,865 lb. Similar widely divergent yields resulted when these two methods were compared using various rates of seeding and fertilization.

The researchers are now broadening their pasture-establishment

studies to gain similar information about sericea lespedeza, orchard grass and birdsfoot trefoil. They are initiating studies to learn the effect of placement of individual fertilizer elements—nitrogen, phosphorus and potash—on stand establishment.

### Retail Dealer Meetings Planned in Minnesota

ST. PAUL—A series of retail fertilizer and seed dealer meetings has been announced by Agricultural Extension Service of the University of Minnesota. They will be held at Morris Nov. 1, Tracy Nov. 2, St. Peter Nov. 3, Dodge County Nov. 4, Anoka Nov. 7, Brainerd Nov. 8, Moorhead Nov. 9 and Thief River Falls Nov. 10.

The tentative program for the meetings includes presentations on soil testing, weed control chemicals, small grain fertilization, corn fertilization and culture, seed processing, new crop varieties, inoculation, hard seeds, seed treatment of legumes and insecticides.

## Net Sales of IMC For Fiscal Year Set New Record

CHICAGO—For the sixteenth consecutive year net sales of International Minerals & Chemical Corp. have shown an increase over preceding year, according to the corporation's annual report for the year ended June 30, 1955, which released Sept. 13.

Net sales for the fiscal year were \$96,485,017—the highest in the company's history and 3.1% higher than sales of \$93,591,934 for the fiscal year ended June 30, 1954.

Net earnings of the corporation for the fiscal year ended June 30, 1955, were \$6,321,903, compared with \$6,043,000 for the preceding year. This is equivalent to \$2.55 per share of common stock outstanding, compared with \$2.44.

Earnings before income taxes amounted to \$7,396,903 for the year ended June 30, compared with \$7,113,979 for the preceding year.

In a letter to stockholders accompanying the report, Louis Ware, president, said that the higher sales volume was realized because of the addition of additional products manufactured in new facilities.

"Both earnings and sales were adversely affected by an industry-wide strike in the Florida phosphate fields which began on June 1, Mr. Ware said. "Continued costs for bringing new plants nearer to phosphate performance were declining at the year's close. Price reductions in several lines curtailed earnings. Depreciation and depletion charges exceeded the previous year by \$912,841."

Profits of the Phosphate Mining Division were ahead of last year's sales would have reached an all-time high had it not been for the general phosphate strike in Florida. Improved efficiency in mining and beneficiation contributed to the favorable results, Mr. Ware said.

Potash Division sales and earnings were higher as shipments from new and enlarged facilities increased, though the profit improvement was somewhat retarded by higher costs in certain operations.

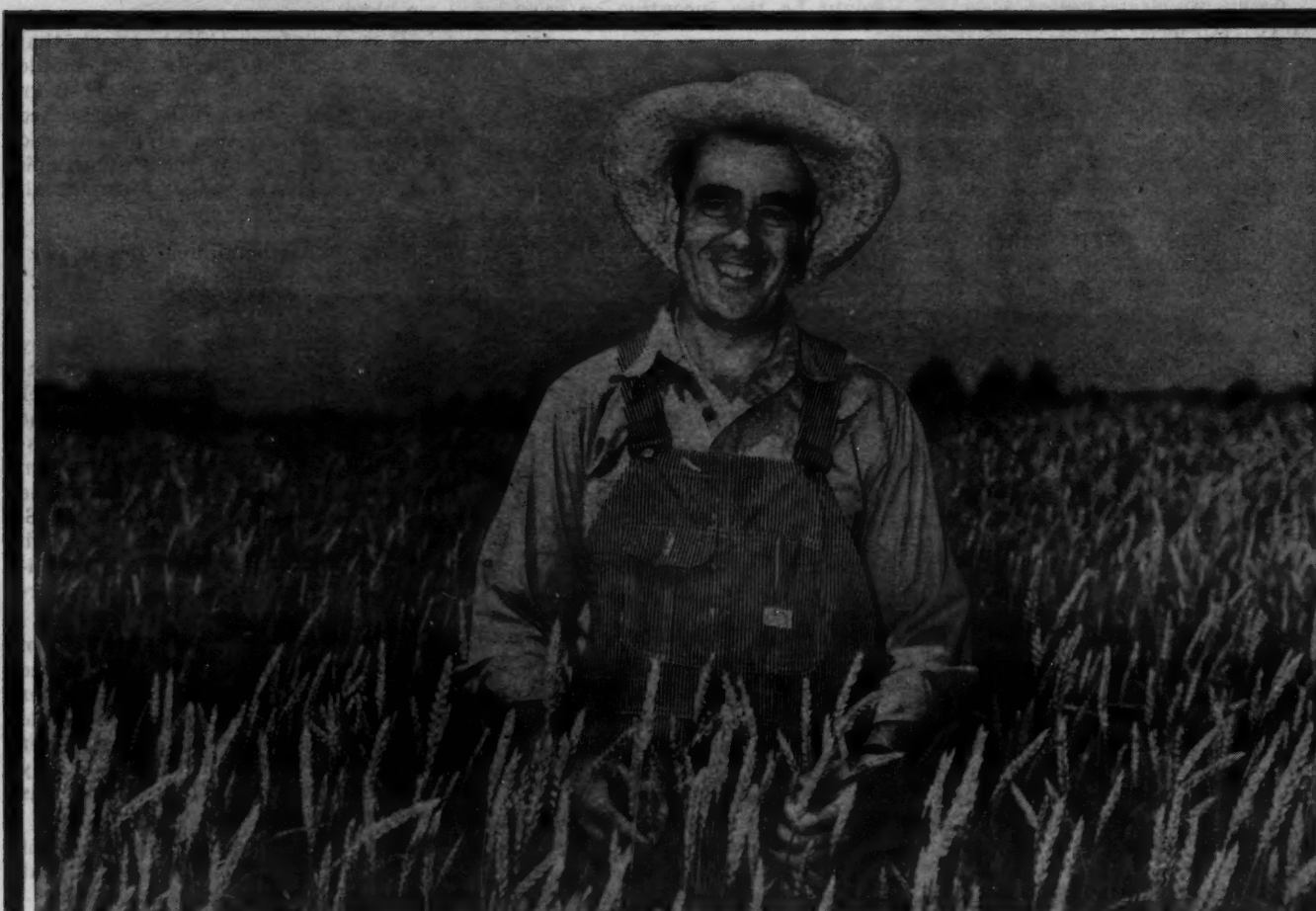
The Plant Food Division realized better earnings from slightly larger shipments, largely as a consequence of increased sales of more valuable higher analysis materials.

"The Phosphate Chemicals Division substantially increased its sales in its first full year of operations but the burden on corporate earnings remained disappointingly large," Mr. Ware told stockholders. "Although manufacturing results were improved, the division bore expenses this year, not incurred the year before, of about one and one-half million dollars comprising a full year's depreciation on the new Bonnie chemical plant in Florida, plus modification and start-up costs of the triple superphosphate addition to plant."

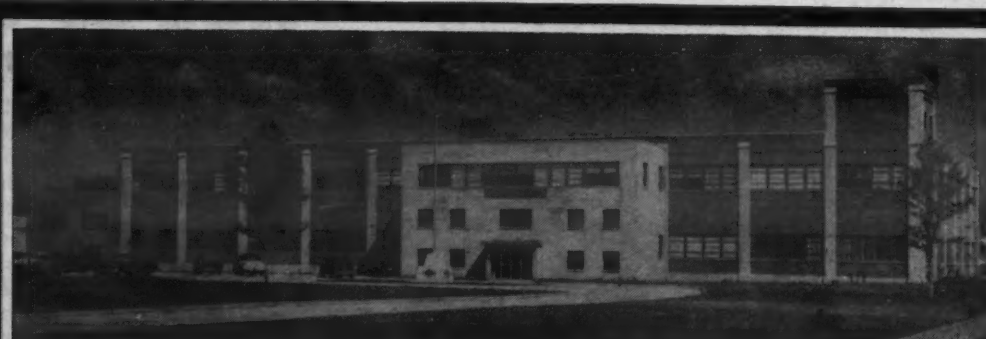
"The corporation enters the fiscal year in an improved position," Mr. Ware said. "There is opportunity for continued sound growth in divisions. The rapid population increase, economic expansion and technological advances being experienced throughout the world augur well for the future of this business."

### South Carolina Group To Meet Sept. 23

COLUMBIA, S.C.—The annual convention of the South Carolina Food Educational Society will be held starting at 10 a.m. Sept. 23 at the Columbia Hotel here.



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## DA Ruling Sought Wheat Damaged Insects in Fields

NCOLN, NEB.—Insect damaged wheat have been found in newly planted wheat in Nebraska, according to the Nebraska Grain Improvement Assn., Lincoln, and a ruling has been sought from the Food & Drug Administration on this type of field damage.

Elie F. Sheffield, secretary of the Nebraska grain group, writes as follows in a recent association bulletin: Shortly after the 1955 wheat harvest started, we began to receive reports of insect damaged kernels present in newly harvested wheat coming from the field. Two such samples were submitted by country stores in south-central Nebraska. They were carefully examined by a writer and entomologists at the University of Nebraska. Both samples contained larvae of the western wheat-head armyworm and most, if not all, of the damage was assumed to have been caused by this insect. The western wheat-head armyworm has been noticed in wheat fields in southern Nebraska early in the year, but it was not known how the survey trips made by this year have indicated that most of the damage was confined to the south portion of the state. Samples of insect damaged grains were submitted to entomologists in Kansas to the Kansas City district office of the Food & Drug Administration in an attempt to make certain what insects had caused the damage and if the Food & Drug's ruling would be in this type of field insect damage.

Samuel Alfend, chief of the Food & Drug Administration office at Kansas City told this writer that they forwarded all submitted samples to Washington for a ruling at the highest level. He stated that they had taken no action against any of the field-damaged type grain and do not plan to do so until they received the Washington ruling.

At the request of Mr. Alfend, this writer submitted additional samples of wheat picked up directly from the field to the Food & Drug Administration at Washington. Following from Washington will depend upon thorough examination of the samples directly from the field which contain the insect-damaged kernels."

## Issued for Research Papers

HACA, N.Y.—Robert D. Sweet, professor of vegetable crops, Cornell University, has been named to organize a one day program on weed control in horticultural crops at the Society of America Conference, held in New York next January. Sweet has made a general call for research papers from anyone who has something to contribute. It is felt the papers should be well-rounded studies or should propose new methods, Mr. Sweet says.

He requests that anyone interested in presenting a paper send him the proposed title and a descriptive paragraph by Sept. 22. The actual paper need not have to be ready until the time of the conference.

## iccol Announces Executive Title Changes

CHICAGO — Velsicol Chemical Co. has announced the following changes for executive personnel: J. Regenstein, Sr.—from president to chairman of the board; J. Regenstein, Jr.—from vice president to president; J. Collinsworth, Jr.—from vice president and general manager to active vice president and general manager. Effective Sept. 1, the firm changed its name from Velsicol Corp.

## Automation Seen As Help for Shortage of Scientific Manpower

EAST LANSING, MICH.—Automation of American industry—feared by many—may help solve some of the shortages for chemical industry scientists and for agricultural instructors and researchers.

Dr. Ted Anderson, Ford Motor Co. official, in an address at Michigan State University about automation, pointed out that the shortages of scientists, teachers and engineers could absorb manpower not needed in industry.

The effect of automation on American industry of the future may parallel the great technological changes that have taken place on the farm, declared Dr. Anderson, manager of Ford's economic studies division. He predicted that

"automation may do the same thing for industry that research and machinery have done for agriculture, release much manpower from the factory for other jobs."

Three other Michigan educators shared in the panel about automation at the college's "Summer Workshop in Economic Education."

Stan Ovshinsky, research director of Hupp Motors, Detroit, urged that an introduction to automation should begin at the grammar school level. He said "a lot of kids should be learning these things in schools, rather than from comic books."

James Stern, staff consultant to the UAW-CIO Automation Committee, Detroit, contended that "adult education is going to have to bear the brunt of occupational retraining, to help relocate manpower released by industry."

Mark Kahn of Wayne University, was the moderator.

## Entries Open for Aerosol Industry Contest

NEW YORK—Entries for the aerosol industry's 4th annual packaging contest will be accepted between Sept. 15 and Oct. 15, the Chemical Specialties Manufacturers Assn. has announced.

One of the ten product groups to be judged includes insecticides, insect repellents and moth proofers.

Plaque awards will be made for the best package in each product group, based on general sales appeal of the complete aerosol package. A grand award will be presented for the most outstanding package of the year.

There are no entry fees. Entry blanks and instructions may be obtained from the Aerosol Awards Committee of the Chemical Specialties Manufacturers Assn., 50 East 41st St., New York City. Winners will be announced at the association's 42nd annual meeting here at the Roosevelt Hotel Dec. 5-7.



The United States

To all to whom these Presents shall come, Greeting.

Whereas Samuel Hopkins of the City of Philadelphia and State of Pennsylvania hath discovered an Improvement, not known or used before, such Discovery, in the making of Potash and Pearl ash by new Apparatus and Process, that is to say, in the making of Pearl ash 1<sup>st</sup> by burning the raw Ashes in a Furnace, 2<sup>d</sup> by dipping and boiling them when so burnt in Water, 3<sup>d</sup> by drawing off and settling the ley, and 4<sup>th</sup> by boiling the ley into Balls which then are the true Pearl ash, and also in the making of Pot ash by placing the Pearl ash so made as aforesaid, which Operation of burning the raw Ashes in a Furnace, preparatory to their Dissolution and boiling in Water, is new, leaves little Residuum, and produces a much greater Quantity of Salt: These are therefore in pursuance of the Act, entitled "An Act to promote the Progress of useful Arts," to grant to the said Samuel Hopkins, his Heirs, Administrators and Assigns, for the Term of fourteen Years, the sole and exclusive Right and Liberty of using and vending to others the said Discovery, of burning the raw Ashes previous to their being dissolved and boiled in Water, according to the true Intent and Meaning of the Act aforesaid. In Testimony whereof Sheweth these Letters to be made patent, and the Seal of the United States to be hereunto affixed. Given under my Hand at the City of New York this thirty first Day of July in the Year of our Lord one thousand seven hundred & Ninety.

Washington

City of New York July 31<sup>st</sup> 1790.

I do hereby certify that the foregoing Letters patent were delivered to me in pursuance of the Act, entitled "An Act to promote the Progress of useful Arts," that I have examined the same, and find them conformable to the said Act.

Edm Randolph Attorney General for the United States.

Delivered to the within named Samuel Hopkins this fourth day of August 1790

W. Johnson

First United States Patent Grant  
July 31, 1790

(Reproduced from the original in the collection of the Chicago Historical Society)

## The First United States Patent . . . was for potash

This is a reproduction, slightly reduced, of the first United States patent ever issued. It was granted in 1790 to Samuel Hopkins of Philadelphia, for a process for producing potash.

If you would like a full-size reproduction of this patent, on parchment paper, suitable for framing, a note to the Potash Company of America would be appreciated.

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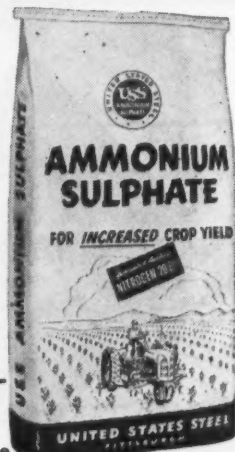
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## NAC MEETING

(Continued from page 1)

are (1) the problem of fees and (2) the problem of products, such as defoliants and fruit set hormones, which are not pesticide chemicals as defined by the Miller Amendment.

Concerning fees, Mr. Rankin said that the regulations were formulated in the fall of 1954 when there was little background of experience for setting the rates. In the first year, he said, the government didn't collect as much money as was spent in enforcing the amendment.

He said that he estimates that 30 petitions will be received in the period of July 22, 1955, to Jan. 31, 1956, and that the fees will cover only about one half of the enforcement cost.

Mr. Rankin said that the law requires a fee service to make the

amendment self-supporting and it will be necessary, therefore, to raise the fees.

Mr. Rankin pointed out that products such as defoliants, which are not pesticide chemicals under the Miller Amendment, are not subject to that amendment. However, if the products leave residues on food crops they are subject to other provisions of the Food, Drug & Cosmetic Act, and tolerances can be set in public hearings.

Mr. Coyne noted that USDA has two principal functions under the Miller Amendment. One of these is the certification of usefulness of the pesticides to FDA. There has not been much difficulty in this area.

In its other function, USDA must submit an opinion to FDA on

whether the proposed tolerance reasonably reflects the residue likely to result from its use. In this area, Mr. Coyne said, there have been some problems because of incomplete and inconsistent data filed with the petitions.

Dr. Palm spoke on "The Importance of the Miller Bill to the Land Grant Colleges."

He told the group that the problem of grower education has grown more acute since the Miller Amendment became effective.

"The day when a farmer can experiment on his own is beset with greater dangers than before," he said. "Responsibility is the key word for everyone concerned with the use of agricultural pesticides."

The Miller Amendment has also raised some new problems for extension workers, since state recommendations for pesticide use must conform to a definite residue limit at harvest.

Dr. Palm also sees some changes

## CONVENTION COVERAGE

Croplife's coverage of the National Agricultural Chemicals Assn. convention is by the following staff members: Lawrence A. Long, Donald M. and W. E. Lingren, all of Minneapolis and Paul L. Dittmore, New York.

ahead in the field of research. In years workers in state agricultural experiment stations have conducted cooperative experiments with interested growers, he said. Today this is the new consideration of whether new pesticides may be used on crops for experimental purposes, the residues remain at harvest, less the experimenter has control over the disposition of the crop.

"New compounds that in a sense are candidate materials, without tolerances until their field evaluation has been made, are the ones that give us trouble," he said.

"It is unrealistic to urge a farmer to use only those pesticides that meet tolerance requirements on crops, yet turn around and ask him for an experimental area using new materials experimentally, unless the investigator can provide assurance that no residue will result or that he has an experimental tolerance which can meet."

Dr. Palm said that the question how much, or of how little, residue research must be done by the experiment stations is a live issue. However, he said he believes residue research in the state stations is a must from now on.

"It seems likely that regional programs may expand within the next few years to consider definite aspects of the residue problem where state boundaries are but a line drawn across the producing areas," he said.

"Possibly the pooling of information by all of the states within a region will be of benefit. State, federal support for residue research as imperative as is similar support for biological evaluation of chemicals."

Dr. Palm also told the group that retail dealers were playing a large part in the recommendation of pesticides to the consumer than is generally realized.

Mr. Conner talked about some of the problems arising from operation of the Miller Amendment and particularly stressed procedure for product labeling. A question and answer session concluded the panel discussion.

Mr. Hopkins listed an impressive lineup of services that the NAC offers to its associate members.

"The organization of committees in NAC is a masterpiece of marshaling of trained and experienced individuals who can be called upon to act when the occasion demands," he said.

He discussed NAC activities in fields of federal and state legislative matters, adverse publicity and product liability insurance.

"Perhaps the greatest service the NAC has done for the formulation and for the entire agricultural industry is the great and successful effort it has made to present facts that dispute, irrevocably, erroneous information peddled by ambitious publicity seeking individuals through the medium of sensational journalism," Mr. Hopkins said.

"The charges were made through the public press, magazines. Naturally, they had to be answered through the same media, and required a type of effort that could not have been exerted by any company or formulator, or even the industry itself. The NAC did the job."

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# WORLD REPORT

By **GEORGE E. SWARBRECK**  
Croplife Canadian and Overseas Editor



progress made by New Zealand wool producers in improving yields by aerial top-dressing with fertilizers has been revealed in figures recently published covering operations for the year ended March 31.

Operators spread 239,000 tons of fertilizer, nearly all superphosphate, in the air during the year, to show an increase of more than 30% over the previous year. Six years ago only 5,000 tons was delivered by aircraft.

Before the war, agricultural economists noted that much of New Zealand's hill country pasture was losing its fertility. The situation was improved during the war because labor and fertilizers were scarce. Grass and fern took hold of large areas and the carrying capacity for sheep was sharply reduced.

Phosphatic fertilizers have been in use for a long time, but much of the land to be covered was too rough for wheeled vehicles. Aircraft made land application a practical proposition. Many companies are engaged in the business and they operate about 1,929,000 acres.

## Moroccan Damage

The recent disorders in Morocco resulted in substantial damage to the phosphate mines operated by Office Chérifien des Phosphates, a government-owned organization.

All surface installations over an area of 100 acres were burned, but the principal plant and offices at Boukha suffered little damage. Production, previously rated at 15,000 tons a day, has stopped.

The company estimates the cost of damage sustained in the region of \$100,000 but stresses that this represents but a small proportion of the amount invested in property and equipment.

## Atomic Pest Control

Speaking at an atomic conference recently in Geneva, Switzerland, R. A. Silow, a Russian scientist, described ways in which atomic energy could reduce agricultural losses by controlling pests and diseases of growing crops. He added that by utilizing foodstuffs atomically their storage life could be lengthened.

Additionally, Dr. Silow said, atomic energy can help increase agricultural production by enabling scientists to learn more about the way plants grow and the factors which govern growth of farm animals.

## Brazil Plant

The National Petroleum Council of Brazil has signed contracts with Sao Paulo firms, the Sociedade Brasileira de Construcoes Ltda. and the Engenharia Ltda. group, for the construction of a fertilizer factory at its Bernardino refinery. The work is scheduled for completion early in 1956.

## Canadian Pesticides

The total amount of sprays used in Canada for livestock and household purposes in 1954 has been officially estimated at 10,433,000 gal., compared with 8,614,000 gal. in 1953, an increase of 21%.

It is desired to leave a deposit of the insecticide that will continue to kill insects over a prolonged period, and 33% sprays intended for use to kill insects on the wing and not expected to give a prolonged residual effect.

Saskatchewan farmers have been advised to check their fields of rape-seed and flax crops for possible infestations of "Bertha" armyworms. R. E. McKenzie, plant industry director for Saskatchewan, points out that some fields in the northern part of the province, where there is a large acreage of rape, have been infested. In addition, infestations have been reported in the south-east sections of

the province where there is a heavy flax acreage.

Control measures include spraying fields with  $\frac{1}{4}$  of a pound of DDT per acre, while derris dust may be used to treat worms found in vegetable patches. Bertha armyworms are described as large conspicuous caterpillars with back colors varying from green to nearly solid black.

## New Greek Plant

Plans are being made for the erection of a nitrogenous fertilizer plant in Greece. The expansion is part of a scheme for recovering large deposits of lignite situated in the Ptolemais area of western Macedonia.

A contract for the exploration and development of the lignite has been signed between the Greek government and the Chemicals and Fertilizer Co. of Athens. The plant will be completed within three years.

The company plans to install equipment for the extraction of a minimum

of 1.8 million tons of lignite a year. Part of the financing will come from German firms under the guarantee of the German government, trade sources state.

## U.K. Anhydrite

A new anhydrite mine, recently opened in northwest England, is located on what are claimed to be the richest and most extensive seams of the mineral in Britain.

The mine has been designed to produce 7,000 tons anhydrite a week. A new plant is being erected and when in full operation it is expected to produce 90,000 tons sulfuric acid and a similar quantity of cement a year.

The deposits, the company concerned states, are sufficient to last several hundred years.

## BEETLE CONTROL

ASHLAND, KY.—A wide area of neighboring Greenup County has been dusted with granular dieldrin to control the Japanese beetle.



*between you and this page*

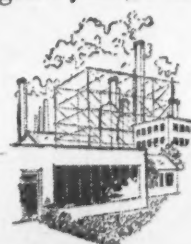
... is roughly one cubic foot of NITROGEN gas. Floating free in the air this nitrogen can't add to America's agricultural or industrial wealth. But Grace Chemical Company has opened a plant in Memphis, Tennessee, that "fixes" atmospheric nitrogen in the form of two very versatile compounds—ammonia and urea. (Shown in the photo are prills—tiny beads—of urea containing the equivalent to the amount of nitrogen gas between you and this page.)

Fixed in this way, nitrogen can enrich our crop farms, our livestock, and our homes—

through its use in fertilizers, feed supplements, and the manufacture of products ranging from toothpaste to television cabinets.

Output of the \$20,000,000 Memphis plant will be 72,000 tons of nitrogen a year. It will provide industry and agriculture these two forms of nitrogen from a dependable source—backed by a world of experience.

For AMMONIA and UREA look to—



**GRACE CHEMICAL COMPANY**

P. O. Box 4906, North Station, Memphis, Tenn.

Atlanta, Ga., 1401 Peachtree St. • Chicago, Ill., 75 East Wacker Drive • New York, N. Y., Hanover Square





Boosting

YOUR

SALES

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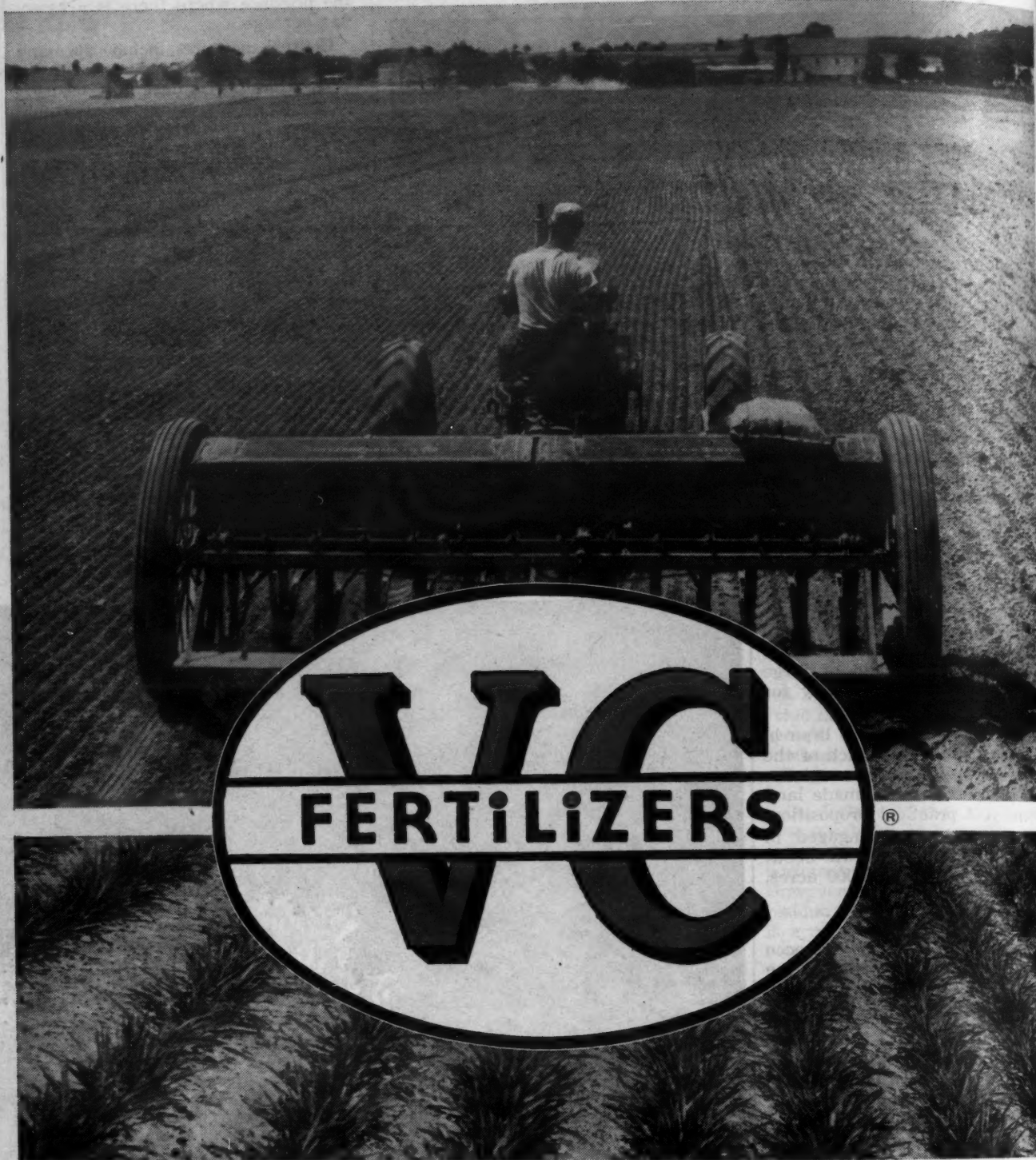
leading farm

publications

read by

YOUR

customers



## How to make more money from every trip across your field...

Back and forth across your field, you travel nearly a mile to seed and fertilize an acre of grain. Yields depend on what your drill puts down. Many leading farmers have found that it pays to give grain 500 to 600 pounds of V-C Fertilizer per acre. A heavy fall application of V-C Fertilizer gives the crop a vigorous start of lush fall growth, helps it to resist winter killing and makes it stool out strong next spring with many sturdy stalks loaded with high-quality grain for harvest. It also helps you get a good "catch" of legumes. When you double or triple your yield of grain with V-C Fertilizer, you reduce your cost per bushel and greatly increase your profit per mile of labor and machinery.

## See Your V-C® Dealer

Get the facts on the complete line of V-C Fertilizers. Ask about the extra crop-producing power and easy-drilling quality of V-C PROLIFIC, the fertilizer preferred by so many leading farmers. V-C PROLIFIC is a superior blend of better plant foods fortified with important minor elements lacking in many soils. V-C Fertilizers and V-C Superphosphates are made to fit the needs of your farm. Your V-C Dealer is a good man to know. He can help you make more money from farming. See him today!



**IT PAYS TO BE  
A V-C DEALER!**

**VIRGINIA-CAROLINA CHEMICAL CORPORATION • RICHMOND 8, VIRGINIA**  
Albany, Ga. • Atlanta, Ga. • Baltimore, Md. • Birmingham, Ala. • Carteret, N.J. • Cincinnati, Ohio • Columbia, S.C.  
Dubuque, Iowa • East St. Louis, Ill. • Fort Wayne, Ind. • Greensboro, N.C. • Hopkinsville, Ky. • Jackson, Miss. • Memphis, Tenn.  
Montgomery, Ala. • Norfolk, Va. • Orlando, Fla. • Richmond, Va. • Savannah, Ga. • Shreveport, La. • Wilmington, N.C.

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# Better Selling

Richer  
Fields for  
Dealers

A SPECIAL CROPLIFE DEPARTMENT TO HELP RETAILERS IMPROVE MERCHANDISING KNOW-HOW

## Signs Are Low-Cost, Silent, Hard-Working Salesmen That Answer Customer Questions

By AL. P. NELSON  
Croplife Special Writer

I have visited many fertilizer and farm chemical dealers during the past year, noting their merchandising and operational methods, and I have come to the conclusion that fertilizer dealers, as a rule, need more signs in and out their place of business.

Why signs?

The dealer needs more signs for the simple reason that there are so many things he needs to tell his customers about, so many questions to answer, that signs are very helpful salesmen. They'll work 24 hours a day for you, and they'll contact many people. And they ask no pay.

### Dealer Clinic

The busy fertilizer dealer in spring has very little time to answer questions as he tries to fill orders and get materials to sell. And he may answer the same question five or more times a day—all because those who want an answer do not come at the same time.

But if the dealer will make a note of which questions customers want answered most often, and if he makes signs with the answers on them, he is saving himself time and also broadcasting some important facts to the dealer.

Not that the dealer should clutter his store and building with too many signs. However, he can choose a number of seasonal signs which can be used time and again, when the occasion demands, and then taken down and other signs put up in their place. Most dealers know that one of the greatest deterrents to added fertilizer sales in the fall of the year has been until last fall—the fact that many farmers believed that fertilizer applied in the fall lost its punch by spring. That fact alone kept many farmers from buying and applying fertilizer.

Last year, however, a lot of favorable publicity for fall application of fertilizer on most soils, showed that experiment station officials approved each application.

This year dealers should get started early on the campaign to sell fertilizer in fall.

Don't list too long a string of reasons why farmers should buy fertilizer in fall and apply it. Just say "Fertilizer Does Not Lose Its Punch When Applied in Fall." That's enough for one sign. Have another sign nearby which says, "Buy Now. Lower Prices. Better Spreading. . . ."

And have a fertilizer display in the neighborhood of those signs. Another way to add punch to those signs is to erect a special fertilizer bulletin board near the signs. On it you can post articles by authorities on the wisdom of buying and applying fertilizer in the fall. Then those farmers who read the big signs, and who want more detailed information can consult the bulletin board.

Storage is a big problem for the manufacturer of fertilizer, the dealer and the farmer. But you can stress in a sign that the soil is a fine storage depot for fertilizer. A farmer need not build an extra shed with proper ventilation for storage of fertilizer bought at a favorable price. He can put it right into the soil when he buys it and save handling and storage costs.

The farmer also has time on his hands in fall. He can thereby use it to work at the fertilizer job. Emphasize this time factor in your signs, too.

## Fertilizer Program Helps Renovate Wisconsin Farm

RICHLAND CENTER, WIS. — A hilly 150-acre farm eight miles south of here, badly eroded and given up as "worn out" early in World War II, is now producing nearly 100 bu. corn and four tons of legume hay per acre.

Clifford Fay, his wife Leona, and their three children have combined run-off control with contour farming and a sound fertilizing program to turn their steeply rolling farm into a profitable enterprise.

A mixture of alfalfa, medium red clover, and brome yielded nearly four tons per acre from sidehill strips last year. Oat yields have increased from less than 30 bu. in 1945 to 55 and 60 bu. per acre last year.

Mr. Fay says the first corn he planted 12 years ago yielded eight bushels per acre. To bring his yields up from that figure took a lot of fertilizer and manure, but it paid off. Last year, as a member of the Pacemaker's Corn Club, his average corn yield was 94 bu. per acre.

Two years ago, Mr. Fay used 25 tons of manure and 1,280 lb. total fertilizer per acre on his corn crop. That was 800 lb. 0-10-30 before planting, 210 lb. 10-10-10 applied when the corn was planted, and 270 lb. ammonium nitrate sidedressed during the growing season. His yield that year, highest in Richland County, was 133 bu. per acre.

This year, he applied 160 lb. 5-20-20 at planting on former cropland, and 300 lb. 3-16-16 on three and a half acres of newly broken sod. His soil tests in connection with the Pacemaker's Corn Club have shown that he can expect 100 bu. yields this year without sidedressing.



By RAYMOND ROSSON  
County Agent, Washington County, Tenn.

Ninety-seven to three would be the vote on extending summertime regardless of what winter had to offer. But how about fall? It's another season.

Regretfully, most of us bid summer good-bye but on the other side of the ledger, there are a lot of us ready to give fall a good vote. With fall comes the harvest moon, the time to reap what we've sown, and gather what we've planted. The days are about the right length and the nights are just right.

We like to drive through the country and look at the many dairy and beef cattle. They always seem so happy on the good pastures but we feel for the cattle without a good pasture. We like to see the corn fields that have proven themselves, the hay-stacks that didn't have room in the mow, the porkers gaining weight by the hour.

We like that "animal cushion," meaning an agriculture with animals between people and the land. And how about a diet with milk, meat and eggs for a foundation? Add to this fresh fruits and vegetables and we are ready to go to work, or to school.

In a large part of the world the subsistence diets come directly from the land, as cereals for carbohydrates and beans for protein. This may account for much unrest among peoples.

What about food for 1956? And 1957? What happens this fall out on the land of our country may mean more than we think.

WHAT ABOUT IT, MR. DEALER? You have a most important part in what farmers will produce in 1956 and 1957. In fact, every person in every town has a stake in the soil around that town.

### EROSION CONTROL PROGRAM

MANHATTAN, KANSAS — Appointments of an agriculturist and an engineer to work in 22 southwestern Kansas counties have been announced by Paul W. Griffith, acting dean and director of the Kansas State College Extension Service at Manhattan. The extension service has created the new positions and added the personnel to assist in developing a more intensive educational program on soil erosion and other problems in southwestern Kansas. Dale Edelblute, who has been agricultural agent in Harvey County, and Leroy C. Nelson of Mound Valley are the new employees. Their headquarters will be at the Garden City branch experiment station.

Use signs in your store to boost early buying of sprayers, and farm chemicals. It doesn't pay to wait until the insect season or weed season is at hand to look over old spraying equipment and buying materials. It's better to handle those jobs in advance when the farmer has more time and when he can be sure to get repairs for sprayers on time.

Alert the farmer in advance of the seasons just ahead and what he needs to do and buy. He'll appreciate it, and you'll get more business as a result.

Weed killers are in such demand that they warrant a special display in many instances—with signs. If you can, try to get pictures of weed killers in action, by large county crews, by farmers with sizable sprayers and by home owners with small sprayers, etc.

These pictures will attract attention.  
(Continued on page 19)



### SHOP TALK

### OVER THE COUNTER

### FOR THE DEALER

By EMMET J. HOFFMAN  
Croplife Merchandising Editor

Fertilizer dealers and salesmen within commuting distance of the University of Kentucky at Lexington will have a fine opportunity to brush up on their fertilizer facts this fall.

For the first time at the University of Kentucky a fall semester evening class on fertilizers and soil fertility will be taught. This may well be the first time such a course has been offered for dealers and salesmen at any university.

As an inspiration for dealers in other states we requested William A. Seay, University of Kentucky agronomist who will teach the course, to outline the purpose, content, time and other background material concerning the course.

"The major purpose of this course is to give some of our fertilizer dealers and particularly salesmen, some basic conception regarding fertilizer and soil fertility," says Dr. Seay. ". . . several of these people may not have taken a course in fertilizers. The course is being offered at their request.

"However, I would point out that we have an interest in the course

also, in that we have county soil testing laboratory system in Kentucky and a wider distribution of information concerning the use of fertilizers and teaching the fertilizer trade that our recommendations are good ones and that our soil testing program is a sound one, is important."

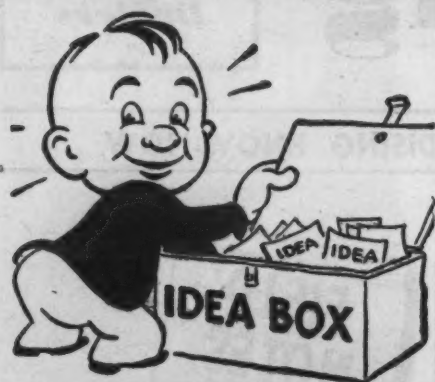
Dr. Seay continues:

"This is the first time that the course has been offered, so that we have no way of telling about the  
(Continued on page 19)



# Better Selling

Richer Sales Fields for Dealers



## What's New...

### In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

#### No. 6311—Wood Preservative

The Carbolineum Wood Preserving Co. has just printed a new folder on its wood preservative, called by the trade name, "Carbolineum". Sections of the folder, available without charge, are devoted to, "What It Is, How to Use It, Where to Use It," and "What It Has Done." The product, according to the folder, is a wood stain, wood preservative and a termite stopper. No special skill or equipment is needed for application, which can be accomplished by brushing, spraying or dipping, according to the folder. Check No. 6311 on the coupon and mail it to this newspaper to secure the folder.

#### No. 6310—Lawn Booklet

"Lawn Culture with Liquid Fertilizers" is the title of a new booklet prepared by Victor Chemical Works. Victor officials said that the booklet is designed to help the dealer develop inquiries from prospective customers and that quantity booklet prices, covering only the cost of printing, are available. The dealer's name

and address may be imprinted on the booklet. According to the Victor announcement concerning the booklet, any concern having tank trucks is a prospect for liquid fertilizer distribution but these firms need guidance in deciding what type of liquid fertilizer solution to offer. Secure more complete details by checking No. 6310 on the coupon and mailing it to Crop-life.

#### No. 6308—Fall Fertilization

A new folder, "Fall Fertilization with Vitrea," has been published by the Grand River Chemical Division, Deere & Co. The folder cites the advantages of fall fertilization: Speeds up decay of crop residues, eases the spring work load, avoids the "wet spring" problem and maintains active humus in the soil. The folder urges the customer to make up his nitrogen deficiency "with 45% nitrogen Vitrea." Included is a table showing the pounds of nitrogen needed for different kinds of crop residues. The folder is available without charge. Check No. 6308 on the coupon and mail it to Crop-life to receive it.

#### No. 6309—Display

Donco, Inc., has designed a 3-way, point-of-sale display featuring its liquid rat and mouse bait and liquid bait dispensers. Dealers may use the tray, containing bait packages, and the display card together or use the card and tray separately. The card has an easel for setting up on counters and in windows. Secure more complete details by checking No. 6309 on the coupon and mailing it to this publication.

#### No. 6307—Couplers

James-Pond-Clark announces its new line of couplers for nitrogen solutions service designed for "rapid handling of nitrogen solutions safely and economically." The firm's "Circle Seal" couplers are claimed to provide high speed filling of tanks from top to bottom. Solutions can be transferred and maintained under pressure and loss of ammonia vapor is prevented, it is claimed. The coupler arrangement consists of a filler valve that is threaded into the tank and a coupler for quick connection between the hose and the filler valve. The filler valve incorporates a check valve unit to permit flow into the tank and automatically shuts off when the coupler is disconnected. Secure more complete details by checking No. 6307 on the coupon and mailing it to Crop-life.

ucts. The organic chemicals are produced in commercial or works quantities. In the catalog, each product is listed alphabetically under its chemical abstract name and most common synonym. In the data section, the chemicals are alphabetically arranged under designation normally used by Ant. The products are described, minimum standards governing shipment set forth, and hazards, when present, are listed. A copy may be obtained by checking No. 6300 on the coupon and mailing it.

#### No. 5276—Face Mask

A General Scientific Equipment announcement states that its "face" erweight Lumarith plastic mask a cotton gauze filter are effective numerous light dusts and chipp



hazards." It is said to protect the lungs, face and eyes against nuisances, dusts, chips and particles in all types of light, non-toxic work. The filter pad consists of cotton and sanitary gauze specially treated for softness and is replaceable. Extra filters are available. For more complete information and price quotations check No. 5276 on the coupon and mail

#### No. 5274—Pallet

The Bakelite Co., division of Union Carbide & Carbon Corp., has announced a new type of material handling pallet weighing 28 lb. molded of Bakelite polyester reinforced with Fiberglas to support 3,000 lb. of working load. Claimed to be resistant to oils, grease, acids and alkalies, the pallet has a surface that is easy to keep clean and sanitary steam sterilizing at temperatures to 325° F. Nine hollow legs molded one strong piece with the platform they support are spaced to allow four-way approach for fork trucks. Nested together in the hollow legs, 100 of these pallets stack up to a height of only 7 ft. 8 in., and occupy only 102 cu. ft. of storage space. Secure more complete details by checking No. 5274 on the coupon and mailing it.

#### No. 5280—Portable Bag Closer

The Dave Fischbein Co. has announced a new model portable bag closer and claims that its versatility will allow it to close bags ranging from the lightest to the heaviest tile or paper bag, whether asphalt treated or specially processed, with no change in parts or adjustment. The machine is electrically powered by a 1/12 h.p. motor and weighs 10½ lb., including full cone of thread. The new model is a refinement of the former model, the company announcement states. The bag closer is said to sew 40 ft. a minute, is light enough to carry with one hand and light touch on the starting button

### Also Available

The following items have appeared in the What's New section of recent issues of Crop-life. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

#### No. 6301—Literature Checklist

The Diamond Alkali Co. has published a checklist of literature which it has published and is available to readers. The list of literature on Diamond chemicals and their uses was first prepared for the company's sales staff but distribution has been expanded. The available literature includes reference manuals and handbooks, technical bulletins and data sheets and product folders and leaflets. Secure the checklist by marking No. 6301 on the coupon and dropping it in the mail.

#### No. 6300—Catalog

Antara Chemicals, sales division of General Aniline & Film Corp., has published an "Organic Chemical Catalog," which is one of a series of brochures describing Antara's prod-

#### Send me information on the items marked:

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| <input type="checkbox"/> No. 5250—Closing Tape   | <input type="checkbox"/> No. 6302—Defoliation        |
| <input type="checkbox"/> No. 5274—Pallet         | <input type="checkbox"/> No. 6303—Chlordane          |
| <input type="checkbox"/> No. 5276—Face Mask      | <input type="checkbox"/> No. 6304—Sprayer Finish     |
| <input type="checkbox"/> No. 5280—Bag Closer     | <input type="checkbox"/> No. 6306—Fall Fertilization |
| <input type="checkbox"/> No. 6297—Chemical       | <input type="checkbox"/> No. 6307—Couplers           |
| <input type="checkbox"/> No. 6298—Lime Manual    | <input type="checkbox"/> No. 6308—Fall Fertilization |
| <input type="checkbox"/> No. 6299—Bulk Transport | <input type="checkbox"/> No. 6309—Display            |
| <input type="checkbox"/> No. 6300—Catalog        | <input type="checkbox"/> No. 6310—Lawn Booklet       |
| <input type="checkbox"/> No. 6301—Checklist      | <input type="checkbox"/> No. 6311—Wood Preservative  |

NAME .....

COMPANY .....

ADDRESS .....

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS  
PERMIT No. 2  
(Sec. 34.9,  
P. L. & R.)  
MINNEAPOLIS,  
MINN.

#### BUSINESS REPLY ENVELOPE

No postage stamp necessary if mailed in the United States

#### POSTAGE WILL BE PAID BY—

Crop-life

P. O. Box 67,

Reader Service Dept.

Minneapolis 1, Minn.



## The Bulletin Board

No. 11 in a series from the Spencer Chemical Company Magazine, "Today's Fertilizer Dealer"



A new granulation process, developed jointly by Spencer Chemical Co. and Ark-Mo Plant Food Co., promises better conditioned fertilizer. Big secret behind this development is accurate control throughout the process. At this panel the flow of various ingredients is recorded together with temperatures at various locations in the system.

## How Spencer helps the industry produce better conditioned fertilizer:

Granulated complete fertilizer is more and more in demand these days. It not only promises better condition in use, but also substantial production economies. To develop information on improved granulation techniques, Spencer Chemical Company recently made an agreement with the Ark-Mo Plant Food Co. of Walnut Ridge, Ark.

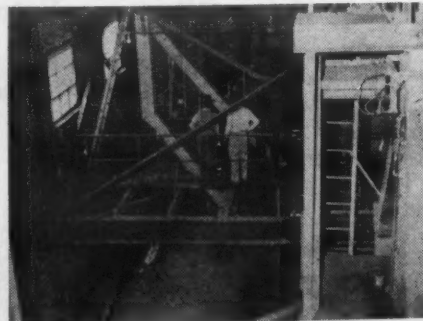
Working together, the two organizations set up a granulating operation which appears to offer the combination of better quality and decreased cost. Since the project has now been successfully completed, Spencer is able to give other manufacturers the information which has been developed.

We of Spencer hope that the end-product of this undertaking will be

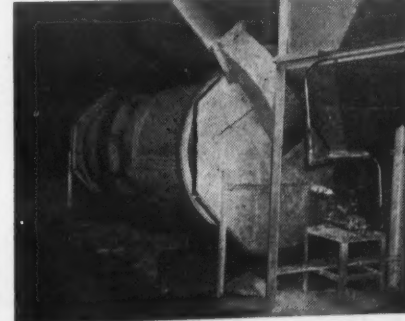
better fertilizer for you to sell . . . better, cheaper fertilizer for farmers to buy.



After raw materials are weighed and screened, the liquids are added in this ammoniator-granulator. This is the only equipment of special design in the Ark-Mo plant. Nitrogen is derived from SPENSOL solutions.



From the ammoniator the material flows to the conventional dryer (foreground). Then it goes to the cooler and finished product screens. There the fines are collected and weighed back into the system.



High nitrogen grades are coated with diatomaceous earth in this machine, on the way to storage. Other grades go to storage direct from process. Hundreds of man-hours went into these plans.



**SPENCER CHEMICAL COMPANY**  
EXECUTIVE AND SALES OFFICES  
DWIGHT BUILDING  
KANSAS CITY, MO.

tape is also available in the same texture. The new tapes will be available for all customers who prefer them to the usual crepe-type tapes. It was announced that the tapes will lower cost to the user. For more complete details check No. 5250 on the coupon and mail it to this publication.

### No. 6303—Chlordane

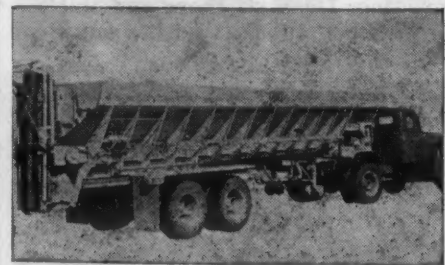
Chlordane promotion material in the form of consumer booklets is available from the Velsicol Corp., Division of Arvey Corp. One is a 12-page booklet on garden insect control and another is a 16-page booklet on household insect control. Samples are available without charge. The backs of the booklets are blank for imprinting of a sales message. Secure more complete details by checking No. 6303 on the coupon and mailing it to Croplife.

### No. 6302—Cotton Defoliation

The National Cotton Council has published a leaflet entitled, "Chemical Defoliation of Cotton—1955 Progress Report." The leaflet is intended to bring the basic defoliation guide first published in 1953 up-to-date by adding an analysis of the newest developments in use of harvest-aid chemicals for cotton. Among the topics discussed in the leaflet are amino triazole, defoliation vs. desiccation, defoliation following irrigation, boll rots and a chart of the various chemicals in use, together with the manufacturers' names and recommended usage. Secure the leaflet by checking No. 6302 on the coupon and mailing it to Croplife.

### No. 6299—Bulk Transport

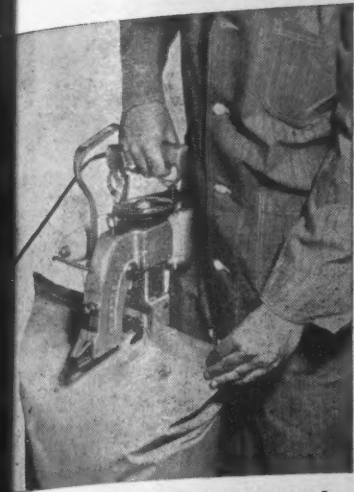
The Henderson Manufacturing Co. has under production a bulk fertilizer delivery unit called the Henderson Chief Bulk Transport. Designed for one-man operation, the unit self-unloads into spreaders and also permits spotting the transport at any job, freeing the truck-tractor to pick up another transport load. The transports are available in lengths from 18 to 36 ft. A 14-ft. swivel conveyor swings in a 156° arc around the back of the transport. Advanced Hydra-Mech action raises, lowers or folds the conveyor vertically for over-the-road transport. The streamlined hopper is corrosion-resisting all steel



welded construction, with rounded front, tarpaulin hooks and catwalk. Rear feed gate opening is hydraulically operated. The entire door can also be swung open to handle other materials. The unit is equipped with a 15 h.p. Wisconsin motor and extra-heavy-duty chain (with oiler) to drive the conveyor belt. Check No. 6299 on the coupon and mail it to secure more complete information.

### No. 6297—Chemical

Acetonedicarboxylic acid, a well-known, highly reactive chemical, is now available in pilot plant quantities by Chas. Pfizer & Co., Inc. Designated by the company as ADA, the compound is derived from fermentation-produced citric acid. A white crystalline powder of high purity, ADA is seen useful industrially for the preparation of insecticides, disinfectants, fungicides, dyestuffs, chelating agents, amino acids, leavening agents and as a synthetic intermediate. A comprehensive data sheet and samples are available upon request. Merely check No. 6297 on the coupon and mail it to this publication.



it into action. The unit can also be adapted for stationary use. A suspension unit is provided and a counterweight holds the machine at desired height. Secure more complete details by checking No. 5280 on the coupon and mailing it.

### No. 6298—Lime Manual

A reference manual concerning the manufacturing processes, applications and specifications of lime and lime products has been announced by the Lime Co. The 28-page, 4-color book traces lime production from the quarry where it is mined, through various production processes, application and specifications that govern the correct methods of their use. Company officials say over two years were spent collecting, editing and producing the reference manual. The brochure is being distributed free of charge. Check No. 6298 on the coupon and mail it to this publication to receive it.

### No. 6306—Fall Fertilization

A new booklet entitled, "Fertilize this Fall" has been prepared by the Spencer Chemical Co. The company notes that views on fall application of fertilizer have changed and that authorities with few qualifications endorse the fall use of nitrogen, phosphate and potash. Dealers are urged to "get into the act" and Spencer's new booklet gives some facts and figures concerning the effectiveness of fall fertilization. Secure the booklet by checking No. 6306 on the coupon and mailing it to Croplife.

### No. 6304—Sprayer Finish

A new metal coating called finish "X" has been announced by the O. W. Kromer Co. for use on Kromer sprayers. The company announcement states that the finish is designed to prevent rust, corrosion and pitting of tanks and to keep sprayers from clogging. Prior to application of the finish to tanks and nozzles, the surfaces are sandblasted white and two coats of the product are applied, each coat being baked on at high temperatures. Further information about the finish may be secured by checking No. 6304 on the coupon and mailing it to Croplife.

### No. 5250—Bag Closing Tape

A new aid to those who store or handle products normally contained in multiwall bags has been announced by the Chase Bag Co. The inventory aid is a smooth-finish tape in a wide variety of colors, which is sewn across the bottoms of multiwall bags as a "closing" tape. In the case of sewn valve multiwall bags, closing tapes are used on both tops and bottoms of bags. The new colored tape, called "Flattertape," is said to serve as a ready identification of the bag contents when bags are stacked and the printed surface of the bag is not visible. Other advantages claimed are the improved printing surface and the availability of colored inks to contrast with the tape. Natural kraft





It was an early fall night, and so Oscar felt justified in taking a second helping of sauerbraten, another piece of raisin bread and a second cup of coffee. In the rough and tough fertilizer business a man had to keep strong and healthy, Oscar figured, but no one but himself would agree that he needed more nourishment. He was already quite thick of body and pot bellied, which, together with his partly bald head and round face, and suspicious eyes, qualified him at first glance as a dyed-in-the-wool conservative.

In fact, Oscar was conservative about everything in his life, except one thing; that was criticism of his partner Pat McGillicuddy. He poured this out at every opportunity, and opportunity came quite often.

"Ach," Oscar said suddenly, taking a last sip of coffee. "I have a good notion not to go."

"Go where?" asked his wife, Minnie, anxiously. She came forward from the kitchen, a slight, bent woman, her dark hair done in a knot at the back of her head. She always was on the verge of folding and unfolding her hands. It was a nervous reaction as though she never knew exactly whether her husband would be pleased at her actions, and usually he wasn't, especially if they pertained to costs.

"To that foolish sales training meeting Pat insists on," growled Oscar. "Says we all need it. Seems to me all they do at those meetings is talk foolishness, laugh and then we have to pay for coffee and doughnuts. The next day everybody walks around tired—but me."

"I know, Oscar, but maybe you should go. Pat will think you are stubborn, if you don't go."

"Stubborn," Oscar growled. "I'm not stubborn. It's just that I've had so much business experience I know I'm right most of the time. Common sense, some people call it."

"But the world is changing so fast," put in Minnie timidly. "Maybe there is something else we can learn."

"Not from that Pat," snapped Oscar. "Last time he came with a silly book and tells us that we should check up on how we talk to people. He said we could make more sales if we learned how to talk to customers. Then he read from that silly book."

Minnie was quiet, but attentive.

"Then you know what," Oscar went on angrily, "that lazy Squeak Hammersmith said that maybe it applied to other people, but not to his wife. He said if he kept quiet she wouldn't hit him with the rolling pin so many times. Now I ask you, does that kind of talk help sell more fertilizer or weed killers?"

"N—no," ventured Minnie, "but maybe there was better talk later on."

"Not that I could hear," Oscar snarled. "Johnny Anderson — that fellow who pitches ball and blows up so often in a game, well he said he could talk to customers about sports and hunting, but it

was the quiet 'yes' and 'no' fellows that he couldn't handle."

"Yes and no?" echoed Minnie. "Who are they?"

"Oh, the people who answer yes or no to a question and that's all they say," Oscar thundered. "And if you ask me, they are smart."

"Smart?"

"Sure," said her rotund husband, picking up a crumb and eating it although he wasn't hungry. "If you ask me, a fertilizer store is a place to do business in a serious way, not to horse around. You should see me, Minnie. I really attend to business down there. I don't waste words with customers. I know they come in to buy, not to tell jokes. Farmers' time is valuable. They want to get back to work as soon as they can. They are just like me. I know."

"But—maybe some farmers are a little different, Oscar."

"Well, they shouldn't be," barked Oscar, his face red with anger. "That's the trouble with this country—too much wisecracking all the time about everything, even during business hours. I even hear people wisecrack at funerals. Who do they think they are kidding?"

Minnie looked very worried as she noticed the flush of anger on her husband's face.

"And then that Duke Franklin came up with an idea, that dumb-kopf," went on Oscar wrathfully. "He said he liked to sell and talk to the customer who could laugh when he saw a pretty girl walk by, where you could say to him, 'Pete, wipe off your glasses and take a look at that broad.'"

"Oh, and he's a married man, that Duke," Minnie said in her shocked voice.



## FARM SERVICE DATA

### Extension Station Reports

A Nebraska agronomist reports that fertilizer not only boosts corn yields per acre, but can also increase the corn's protein content and feeding value.

Dr. M. D. Weldon, University of Nebraska extension agronomist, reports that corn side-dressed with 40 lb. nitrogen per acre had a protein content of 9.3%, compared to 7.8% on unfertilized corn. Where 80 lb. nitrogen was used, the corn's protein content went up to 9.6%. The tests were made in five Eastern Nebraska counties.

Dr. Weldon says that in other tests corn contained 9.4% protein, when the starter fertilizer carried 10 lb. nitrogen plus 40 lb. phosphate per acre, and a side-dressing of 80 lb. nitrogen was added.

"Crops with a high protein content usually have higher feeding value

"You don't know some men," Oscar said critically. "That's all they talk about is women, how they are—are, you know. You are lucky you have me. I work when I go to the business. I believe in selling fertilizer."

Minnie sighed. "I certainly am lucky I got you, Oscar," Minnie said. "I'll try to save harder than ever before, just like you want me, to."

"That's the idea," Oscar said. "We save while others spend, and some day—"

"Is Pat so set on this sales training?"

Oscar nodded critically. "That's just about all he talks about. He says we should ask customers how their kids are, how big a fish Uncle George got on his vacation, if Grandfather still plays the player piano and all that stuff. He says it makes customers friendly, so they like to come to our store to buy. Ach, such foolishness. The only kind of customers it brings is those who have no money to pay their bills."

Suddenly he thumped the table with his hands. "Minnie, do you know that I have enough money I could buy out Pat's interest in that fertilizer business for cash, lock, stock and barrel—if I wanted to?"

"You—you could?"

"Sure, and Pat couldn't buy out my interest without borrowing from all his friends and relatives in America and Ireland."

"Yes, it pays to save, Oscar," Minnie said dutifully.

"I feel better now," Oscar said. "I think I'll go to the sales training meeting. I can sit there and think—I could buy out that Irishman any time I want to."

versity horticulturist, "but one thing that hasn't changed much is the price of plant food."

Mr. Carolus reports that the cost of farm supplies is up 125% since 1930—but that the cost of fertilizer is up only 13% over 25 years ago.

Back in 1930, reports Mr. Carolus, farmers used five and one-half million tons of plant food, while now they are using 21 million tons a year. Mr. Carolus says that years ago the low-analysis fertilizer had to be applied in large quantities to supply needed nutrients. This year, with the high-analysis fertilizers, the amount applied can be cut almost in half and still furnish the same nutrients. Nitrogen-phosphorus-potash analysis like 5-20-20 and 12-12-12 have increases of over 100% in plant food content over older, low-grade fertilizers.

And John Doneth, Michigan State agricultural economist, points out that many farmers are erring in being too conservative in use of credit in these days of rising costs. Mr. Doneth tells about one Michigan farmer who spent only \$500 for fertilizer in 1952 for 250 acres of cropland. Soil tests showed this was not enough. He doubled his application in 1953 and in 1954 he borrowed \$2,000 for fertilizer. Mr. Doneth reports that this farmer increased his profits in the last couple of years, while many of his neighbors have seen their earnings drop.

★

Killing weeds around granaries, oil and gasoline storage units, and other rural improvements can be done easily and effectively with a soil "sterilant," says John J. Zaylskie, North Dakota Agricultural College Extension service forester. The resulting bare ground will make an excellent fire break, protecting buildings from wild fire.

★

Every rat around the buildings costs a Wisconsin farmer about \$20 per year, says E. H. Fisher, insect and rodent control specialist at the University of Wisconsin. These rodents—and mice as well—damage a lot of oats, wheat and corn and make it unsalable under the new federal clean grain program.

Mr. Fisher urges a two-phase rodent control program: (1) protect stored grains, and (2) kill the rats and mice with modern rodenticides.

★

Spraying for mustard in a grain field pays off, according to Edwin H. Jensen, the University of Minnesota's extension agronomist. He tells of Canadian experiments in 1952 and 1953 which found that mustard plants lower yield.

The first year, 1952, a hand-weeded weed-free flax crop yielded up to 22 bu. per acre. Ten mustard plants per square yard reduced yield to eight bushels and 25 plants brought it down to six bushels. A hundred mustard plants per square yard choked out all but enough flax to yield three bushels per acre.

In 1953, the Canadian mustard-free flax yielded 14 bu. per acre. Ten mustard plants per square yard reduced yield to six bushels and 25 plants brought it down to four bushels.

The Canadian experiments also indicate early spraying is very important. Competition from mustard reduces yields before the mustard comes into bloom.

### PHILIP E. LIRIO DIES

VINELAND, N.J.—Philip E. Lirio, 70, a founder of the Lirio Chemical Co. which manufactures insecticides, died here recently. He was mayor of Vineland from 1925 to 1929.

★

A top-dressing of fertilizer late this fall or early next spring can double or even triple the production on blue grass pastures next spring. A University of Minnesota soils specialist, Harold Jones, says that such fertilized pastures give cattle good grass two or three weeks earlier than unfertilized pasture.

★

While the cost of many farm supplies continues to rise, fertilizer prices remain low.

"Things have changed a great deal in the fertilizer business," points out R. L. Carolus, Michigan State Uni-



**Aiming at bigger profits?**

**Then take a long, hard look at this  
important farm chemical trademark!**

---

**MONSANTO**



**Biggest money-making news in years! Read  
how this famous trademark can push your sales  
curve up! Turn page for complete details.**



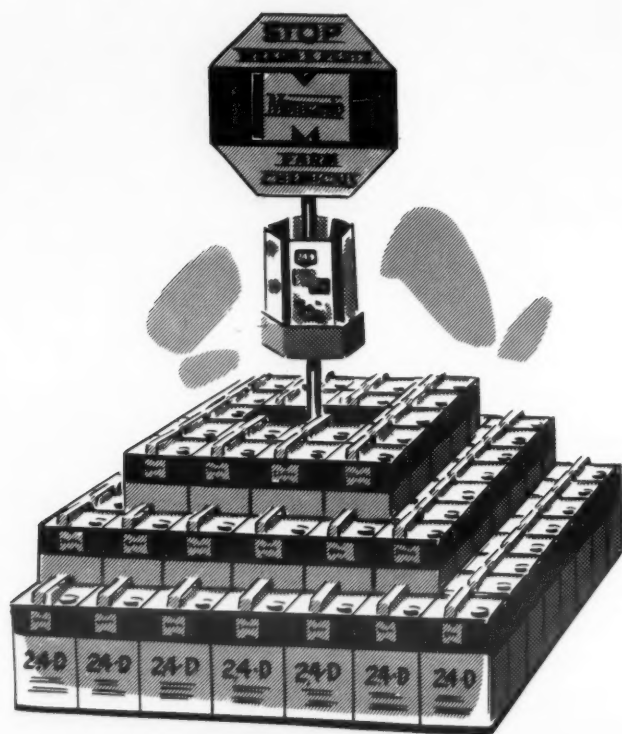


# Now... a complete line of money- Weed Killers, Brush Killers, backed by a smashing 8-way

This is a *broad line* of herbicides and insecticides, made and *field-tested* by Monsanto—world-known for products created from the wonders of chemistry.

And with the Monsanto line, comes a powerful promotion program to help you make more by selling more... a promotion unequalled by any other farm chemical manufacturer.

Read over the details of this big 8-way program, then ask yourself if any other manufacturer gives you such hard-hitting, profit-producing backing for selling farm chemicals!



## 1 A COMPLETE SELF-MERCHANDISING UNIT FOR YOUR STORE

This all-in-one unit "STOPS" prospects, displays the product, distributes literature. Dominant, colorful, unlike anything now available to you in this field. Simple to set up, rugged and strong. A *complete* extra store salesman to attract attention and bring in more farm chemical dollars for you.

**And remember . . .**

You get it only with the Monsanto line!

## 2 JUMBO PICTURE AND DIAGRAM WALL CHART

A double feature! Use it as a wall chart in your store, send it home with your customer for a barn-door chart. A real service item. In simple, easy-to-understand pictures and diagrams, it recommends how, when, why and where to use Monsanto weed killers. Takes the mystery out, puts the common sense in!

**And remember . . .**

You get it only with the Monsanto line!

HOW TO USE		WEED KILLERS	
Crop	Weeds	When to Use	How to Use
Corn	Grass, broadleaf	After corn is 6 inches high	Apply 1/2 pint per acre
Wheat	Grass, broadleaf	After wheat is 6 inches high	Apply 1/2 pint per acre
Oats	Grass, broadleaf	After oats are 6 inches high	Apply 1/2 pint per acre
Flax	Grass, broadleaf	After flax is 6 inches high	Apply 1/2 pint per acre
Barley	Grass, broadleaf	After barley is 6 inches high	Apply 1/2 pint per acre
Soybeans	Grass, broadleaf	After soybeans are 6 inches high	Apply 1/2 pint per acre
Alfalfa	Grass, broadleaf	After alfalfa is 6 inches high	Apply 1/2 pint per acre
Pasture	Grass, broadleaf	After pasture is 6 inches high	Apply 1/2 pint per acre



## 3 PACKAGED DIRECT-MAIL PROGRAM

Complete down to the last word. Professionally written, expertly illustrated mailing pieces that are guaranteed to put over the advantages of farm chemicals to farmers... and to bring those farmers into *your* store to buy. All you do is address these mailing pieces to your own best prospects.

**And remember . . .**

You get them only with the Monsanto line.



# makers in farm chemicals...

# Insecticides—

# promotion program!

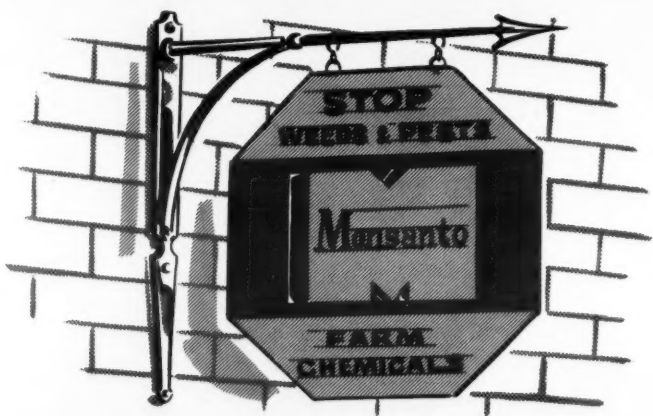


## 4 NEWSPAPER MATS AND RADIO SCRIPTS

Ready to use. No work for you. You need only insert the name of your store in the mat or the script and a timely, interesting message goes to your prospects... in your own selling area... in your name!

**And remember...**

You get them only with the Monsanto line!



## 5 OUTSIDE METAL STORE SIGN

A "STOPPER" for sure. This versatile attention-getter can serve you well. Use it outside (or inside if you prefer), with your store name or with lists of products you feature.

**And remember...**

You get it only with the Monsanto line!



## 6 GIANT STORE POSTER

In bright, brilliant day-glo inks, this king-sized banner in your store will flash a day-after-day message that can't be

missed. Use it over a wire hanger (it's printed two sides for double impact), use it as a wall poster, use it as a window streamer. Any way, it tells the world you sell and recommend the Monsanto line!

**And remember...**

You get it only with the Monsanto line!



## 7 PRACTICAL, USABLE LITERATURE

No long words or jaw-breaker phrases. These are simple, easy-to-read pamphlets and booklets about Monsanto farm chemicals—and about how to use them for best results and bigger crop profits. Completely different from anything you've seen before—more pictures, more illustrations, more *readable* information than anything now available.

**And remember...**

You get them only with the Monsanto line!

## 8 There's MORE, too!

These 7 features are only the beginning. In addition, there's consistent, hard-hitting *advertising* by Monsanto—in your own state farm papers and in the regional farm magazines that are read right in your own back yard. Here's consumer advertising where *you* can use it... where it's of benefit to *you*!

**And remember...**

You get it only with the Monsanto line!



# Attention distributors:

Here's a great opportunity for aggressive bona-fide distributors who are on the alert for profitable new business.

Monsanto is a leader, a world-recognized leader in the field of chemistry. This complete line of farm chemicals inaugurates Monsanto's long-range, full-scale program in agriculture.

The pages you have just read give you a capsule idea of the tremendous merchandising program Monsanto is planning to put behind their line of farm chemicals.

And yet, that only tells a few of the advantages of the Monsanto line to you as a distributor. There are these, too—

- ADVANTAGE 1** A complete kit showing the actual mechanics of the dealers-promotion described on the preceding pages.
- ADVANTAGE 2** An interesting incentive plan.
- ADVANTAGE 3** Educational programs for your dealers, completely operated and programmed by Monsanto.
- ADVANTAGE 4** A simple, easy-to-use catalog.
- ADVANTAGE 5** A complete supply of direct-mail material to be sent to you, the distributor (for your dealers), on this new line of farm chemicals.

*And most important, a realistic approach that will give you all the things you want on ordering, pricing, service and contracts. A program that will give you the protection and stability which you as a reputable distributor have always desired in the field of farm chemicals.*

**MIDWEST DISTRIBUTORS:** Let our salesmen tell you how you can become a part of this program.

For complete information phone, write or wire Farm Products Section, MONSANTO CHEMICAL COMPANY, 800 North 12th Boulevard, St. Louis 1, Mo.

*Where Creative Chemistry Works Wonders For You*



TYPICAL EYE-CATCHING PACKAGE

**MONSANTO**



## What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

National Agricultural Chemicals Assn. registrants for the group's meeting at Spring Lake, N.J., were told that more industry statistics and market facts are needed. W. W. Allen, reelected president of the association, said that it may take 100% more chemicals to produce the 40% more food that the U.S. will require to feed its expanding population in the next 20 years.

A formal safety educational program for customers of the pesticide industry was proposed at the National Agricultural Chemicals Assn. meeting at Spring Lake, N.J. . . . Government researchers, through their constant tests, can prove the effectiveness of agricultural chemicals, thereby creating new demands and stimulating production, NAC registrants were told.

USDA studies revealed that granular-type insecticides show promise toward control of European corn borer, and at the same time present less of a residue problem than do other kinds. . . . The greatest potential for growth in pesticide and fertilizer sales lies in the north central states, USDA studies indicated. This area produces a major portion of nation's agricultural output.

Flood damage in the northeastern states was calculated in billions. Hurricane "Diane" brought winds and rains that ruined crops, killed livestock and devastated whole areas of New England. Flood insurance was reported to be practically non-existent, thus adding to the difficulties of both farmers and businessmen. . . . A European chaffer quarantine was applied to include parts of Connecticut, New York and West Virginia. . . . Grace Chemical Co. named John B. Pitner as head of its Agricultural Service Dept.

Velsicol Corp., Chicago, named C. E. Campbell as its representative in the Washington, D.C. area. . . . Pacific Coast Borax Co. named two additional salesmen: J. S. Gowland and Elmer H. Schmlerer. . . . E. I. duPont de Nemours & Co. of Canada also announced sales appointments. Merle E. Ward moves from Montreal to Toronto; L. A. O'Neil, from Ontario to Alberta and British Columbia; and G. H. S. Malcolmson moves from Alberta to London, Ont. The new representative was appointed: A. A. Appleton who will operate in western Ontario and Quebec.

According to a report by the U.S. Bureau of Mines, the phosphate industry faces a good future in both demand and output potentials. A continual increase in use has been noted for many years. . . . The American Society of Agronomy met at Davis, Calif., Aug. 15-19 and heard many papers on crops and soils research. New president elected was Dr. Iver Johnson, Iowa State College.

Davison Chemical Corp. announced that it would take over the manufacturing work of A. F. Pringle & Co., Charleston, S.C. . . . Alabama By-Products Corp. appointed C. A. Graft as service and sales engineer at Birmingham. . . . Richard M. Young, Jr., became assistant sales manager of Ultra Chemical Works, Inc., Paterson, N.J.

U.S. Rubber Company's Naugatuck (Conn.) plant was damaged in recent floods, but the company announced that it had stocks on hand for immediate deliveries. . . . Fertilizer sales in California showed an increase of 21,000 tons in the second quarter of 1955. Sales during April, May and June, this year, totaled 320,702 tons. . . . Korea received authorization for \$9 million for fertilizer materials. Grant was made by the International Cooperation Administration. Sources of the material will be world-wide.

Don Paarlberg, USDA economist, took initiative to refute talk about a farm depression. In a speech made in New England, he brought out facts and figures indicating that farmers are not slipping in net income.

U.S. Department of Commerce reports that the farm chemical industry is in good condition, based on relatively low inventories in the face of record production. . . . Two phosphate plants, those of Virginia-Carolina Chemical Co. and Armour Fertilizer Works, reopened at Lakeland, Fla., following settlement of wage dispute which had closed the operations since June 1.

Diamond Black Leaf Co. moved to Cleveland, Ohio, from former office at Richmond, Va. . . . McLaughlin Gormley King Co., Minneapolis, announced opening of a New York office as part of its expansion program. Nathan D. Dot will head the branch.

Russell B. Stoddard and R. H. F. Dade were named to new positions by the Fairchild Machinery and Chemical Corp. Both are associated with the Fairfield Chemical Division. . . . Phytopath group and Ohio Pesticide Institute met at Wooster, Ohio for three-day meeting. . . . H. H. Allen, retired executive of the H. B. Bag Co., died Aug. 13; and Dr. William Hale, farm chemurgy consultant and formerly Dow Chemical Co. executive, died Aug. 8.

USDA hinted that because of a larger-than-expected cotton crop this year, further acreage reductions may be necessary, effective next season. Total of 17 million acres may be planted, as compared to 18 million this year. . . . The Food and Drug Administration reported that chemical firms have a tendency to request tolerances higher than may be allowed safely.

Lion Oil Co. reported a gain of 29% over the first half of 1954. Income for first six months of 1955 was \$7,816,987 as compared to \$6,067,300 last year. . . . Dow Chemical Co., Midland, Mich., also reported a new sales record for its 1955 fiscal year. The new figure was \$470,742,000 as compared to sales of \$368 million made last year.

## New Methods Far in Lead, Corn Demonstration Shows

RED WING, MINN. — A unique demonstration, "Corn—Yesterday and Today" on the Walter and Paul Wenzel farm near here, is dramatically showing how modern methods spectacularly increase corn yields.

Two adjoining plots are involved. Corn on one plot is being raised under the most modern methods; corn on the other is being grown by methods used 30 years ago.

This is the first time in Minnesota, and probably in the nation that such a demonstration has been scientifically conducted.

Arnold Wiebusch, Goodhue County extension soils agent, working with G. J. Kunau, county agent, is in charge of the demonstration. The University of Minnesota state staff, represented by Harold Jones, extension soils specialist, and Edwin Jensen, extension agronomist, is cooperating in the demonstration.

Thus far "today's corn" is well ahead of "yesterday's corn" and will give greatly increased yields. Final results will not be known until late September or early October when the corn is harvested and a field day is held.

Practices carried out on the two different lots were as follows:

**Corn Yesterday**—Before planting, the land was manured, worked over twice with a field cultivator, then disced and harrowed.

At planting time, Minn. No. 13, one of the best open-pollinated varieties of the 20s, was planted in straight rows three kernels to the hill in hills 40 in. apart. This meant about 12,000 plants per acre.

After planting, the corn was harrowed before sprouting and then cultivated four times.

**Corn Today**—Before planting, the field was worked over with cultivator and a week later 400 lb. 5-20-20 fertilizer per acre was broadcast. The day after fertilization the field was gone over again with the field cultivator and then double disced and harrowed a week later. Two pounds of aldrin to control soil insects was broadcast and disced in the day of planting.

At planting time, Minhybrid 508, an outstanding hybrid corn, was drilled on the contour 18,500 and 20,000 plants per acre. At the same time 160 lb. 5-20-20 fertilizer per acre was applied as a starter.

After emergence, 3 lb. dinitro spray was applied per acre for weed control. The field was then cultivated with the rotary hoe, and finally two weeks later cultivated with a sweep type shovel cultivator. At this last cultivation, 300 lb. ammonium nitrate per acre was applied with a cultivator attachment.

In giving background on the demonstration, Mr. Wiebusch explained that about three acres of the Wenzel farm is involved. The field was selected for the demonstration because no lime and very little fertilizer had ever been used.

In 1952, the first year the Wenzels operated the farm, corn on this field averaged 35 bu. per acre. Oats yielded 18 bu. in 1953 and an alfalfa seeding failed. Last year fertilizer was tried, for the first time, giving a 60-bu. corn yield.

The demonstration itself is patterned after another University of Minnesota demonstration that created national and international attention. This demonstration, prepared by Lester Hanson, professor of animal husbandry, placed hogs on rations typical of 1910, 1930, and 1953 and showed conclusively the value of modern feeding methods. Mr. Wiebusch and his co-workers now hope to do the same thing with corn.

## 150 Attend Fertilizer Meeting Sponsored By Missouri Bank

RICHLAND, MO.—The Pulaski County Bank here recently held a meeting on soils and fertilization for farmers. Featured speakers were John Falloon, extension soils specialist of the University of Missouri, College of Agriculture, and Perry Onstot, Davison Chemical Co., Division of W. R. Grace & Co., Joplin, Mo. They discussed the various aspects of soil fertility and plant nutrition and conducted a question and answer period following their discussion.

The soils meeting was one of a series of Farm Forum meetings conducted by the bank in the interests of better farming. Gordon Warren of the Pulaski County Bank, who made the arrangements for the meeting, announced that the meetings were offered as a public service feature by the bank to help keep farmers in that area informed and to assist in any way possible in providing farmers with an opportunity to hear and discuss timely farm topics.

The meetings were held in the air conditioned facilities of the Pulaski County Bank and there were approximately 150 persons in attendance for each meeting. Light refreshments were served to all guests at the close of each meeting and a door prize was awarded each night.

Other meetings and speakers in the series included: "The Farm Social Security Law," Hiram Ford, Social Security Field Office, Jefferson City, Mo., and "Agricultural Outlook and Livestock Marketing," Dr. Lawrence E. Kreider, agricultural economist of the Federal Reserve Bank of St. Louis, and Paul Woodson, president, Woodson and Fennwald, National Stockyards, Ill.

## New Color Press

NEW YORK — Arkell & Smiths, manufacturer of multiwall and specialty bags, recently installed a new five-color press in its Canajoharie, N.Y., plant. Designed for printing with heat set inks, the press can run high quality gloss registration work at speeds up to 500 ft. per minute. This new equipment will provide fine quality letterpress printing for specialty bag customers.

## St. Regis Develops Bag "Literature Pouch"

NEW YORK—St. Regis Paper Co. has announced the development of a new multiwall paper bag feature which makes it possible to enclose printed instructions or sales promotional material in a pouch in the bag. The printed material can be inserted in the "literature pouch" in the back of the bag and easily removed by the consumer through tearing the plainly marked tab.

Insertion of the literature is a separate operation which can be performed in the St. Regis bag plant, or in the customers' plants if open mouth bags are used.



*if your product is marketed  
through distributors and dealers...*

# Croplife is for YOU!

**AN IMPORTANT EXCLUSIVE** is available to advertisers whose agricultural chemical products are marketed through distributors and dealers. It is Croplife's unique *regional crop-area circulation plan*, carefully developed to fill an urgent need in the industry's marketing and advertising facilities—the need of advertisers to reach the dealers and distributors and farm advisers with an up-to-date story of their products and their consumer promotion plans.

**THIS IS THE PLAN:** In addition to the weekly circulation to manufacturers and formulators, Croplife is distributed on a regional crop-area basis to the dealer-distributor-farm adviser segment of the industry. The merchandising section in each issue of Croplife is specifically edited for dealers in one specific region. This carefully planned editorial formula insures intense reader interest.

More than 11,000 DEALERS, 1,700 custom operators and 1,000 farm advisers receive the issue of Croplife specifically edited for their regional crop-area once each four weeks. The mailing schedule for this group covers consecutively four geographic regions of the United States (see map) with one of four regional dealer issues: The Northeast Dealer Issue, the South Dealer Issue, the Midwest Dealer Issue or the West Dealer Issue. Each week Croplife goes to more than 3,500 dealers, distributors and farm advisers in one of these four regional crop-areas.

**THIS CIRCULATION EXCLUSIVE** is available only through Croplife. The regional crop-area circulation to dealers has been carefully developed to fit the particular needs of the agricultural chemical industry. Many individual products have been developed and approved and are being sold for use on a specific crop; therefore, marketing and promotion plans must be directed specifically to the appropriate crop-area. Croplife's dealer circula-



In addition to its national coverage, Croplife offers a selective regional circulation plan in these crop-areas

tion developed along crop-area lines offers advertisers the *most flexible medium possible*, designed to give "direct-hit" coverage for specific messages without the higher cost of a larger-than-necessary circulation on an inflexible nationwide basis. Advertisers interested in reaching dealers in more than one region can do so easily and economically with a selective advertising schedule.

**HOW TO USE THE PLAN:** Select the regional crop-areas—Northeast, South, Midwest or West—in which you need to reach dealers, distributors and farm advisers with the up-to-date story of your products and your consumer promotion plans. Plan your message to inform and to educate this group. Then, select the appropriate issues of Croplife to carry your advertisements. Croplife's printed circulation statement outlines the four regional crop-areas in detail and gives the issue-by-issue mailing schedule. Ask us for a copy.

## AND SOON—4000 additional selected dealers will be added!

**BEGINNING IN JANUARY** this important circulation exclusive becomes even more valuable to advertisers who are reaching dealers through the pages of Croplife. An additional 4,000 selected dealers handling agricultural chemicals will be receiving the issues of Croplife edited specifically for their crop-areas. One thousand dealers in each regional area have been screened and verified and will be added to Croplife's controlled circulation

plan, bringing the total number of dealers, distributors and farm advisers receiving Croplife to more than 18,000. Each week Croplife will go to more than 4,500 of these interested readers in one of the four regional crop-areas.

**MAKE YOUR PLANS NOW** to capitalize on this unique advertising opportunity, exclusively through the pages of Croplife.

*WRITE-WIRE-PHONE for the full story of your advertising opportunity in*

**Croplife**  
...for richer <sup>sales</sup> fields  
published by The Miller Publishing Co.

**NEW YORK**  
114 East 40th Street  
Murray Hill 3-3768

**CHICAGO**  
2272 Board of Trade Bldg.  
Harrison 7-6782

**KANSAS CITY**  
614 Board of Trade Bldg.  
Victor 1350

**MINNEAPOLIS**  
2501 Wayzata Blvd.  
MAin 0575



## Another Mexican Fruit Fly Found

SACRAMENTO—A lone Mexican fruit fly specimen has been found by the U.S. Department of Agriculture at Ensenada, Mexico, according to the California Department of Agriculture. This is the second Mexican fruit fly taken in that area, the first being trapped in August, 1954.

## OVER THE COUNTER

(Continued from page 9)

popularity of the course. We intend to use Collings' 'Commercial Fertilizer' as a reference book but not as a text. Most of our reference material will come from recent periodicals on fertilizers and soil fertility."

A good share of the time will be devoted to Kentucky crops and Kentucky recommendations since, as Dr. Seay put it, "the recommendations of the appropriate experiment station should be followed."

Dr. Seay continued that, "Some of the salesmen who urged me to get this course together pointed out that night courses in sales, etc., were offered at various places but that a course in fertilizers would more nearly fit their needs." (This is no doubt true in every other state in the U.S.)

### Outline of Course

An abbreviated outline of the course was kindly supplied by Dr. Seay for the guidance and information of readers who might want to inquire in their home states about the possibility of a similar course. Here is the Kentucky course outline:

Introduction—five periods; soil fertility and acidity—17 periods including the deficiency symptoms, fertility importance to Kentucky crops, test plot demonstrations (made-to-order or dealers), use of soil maps, etc.; special uses of fertilizers—six periods covering liquid fertilizer, foliar application of fertilizer, fertilizer-pesticide mixtures, etc.

Technical problems with fertilizers—nine periods including ammoniation, granulation, production facilities, conditioners, etc. "Social" problems with fertilizers—11 periods covering organic farming, seasonal application, high analysis and control laws, etc.

Dr. Seay states that the plan is to meet once each week for a period of about 2½ hours during which time three periods will be covered.

### Results Awaited

The Kentucky course promises to be a stimulating one for dealers and salesmen fortunate enough to be able to attend. Likewise, we predict it will be most successful, from the standpoint of attendance and results, and hope it will serve as a guide for others in other states. It is planned that at a future date another report on the Kentucky course will appear in this department if Dr. Seay can be persuaded to take another few minutes from his busy schedule to summarize the results for Croplife readers.

## SIGNS ARE SALESMEN

(Continued from page 9)

on and answer many questions for prospects who come in looking for information on weed spray jobs. Most certainly a weed spray bulletin board each season would disseminate much information and promote sales.

If you display sprayers, large or small type, get a picture of a local

user employing the equipment on his farm, orchard or garden and post it on a sign right on that display table. Many customers will go right to that table to inspect it.

Try walking through a modern department store and look especially for signs. Often you will not find many large ones, but you will find many small, informative signs on counters and merchandise. You'll rarely see a table of displayed merchandise in a department store without one or two or more small, selling signs. But some fertilizer stores have tables without such selling signs.

Walk into a chain grocery store, or automotive supplies store. There you will find more and larger signs than in a department store. Those signs shout the virtues of the mer-

chandise displayed. There are also banners hanging from overhead wires plugging some special product or brand. And if you will notice how shoppers fill those shopping carts with merchandise, you'll know that those signs really sell extra merchandise.

Fertilizers and farm chemicals need much more explanation to the customers than do groceries or department store merchandise. And that is why the alert fertilizer dealer will find that signs can help him do explaining and also selling.

Remember that when the customer stops to read one of your signs he is concentrating on your message. That is one of the important first steps in making the sale. Let the right signs work for you every day of the year. Write the copy carefully, don't be

# Better Selling

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**YOUR MARKET**

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Croplife

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Progressive Farmer

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THE FARMER

Nebraska  
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Agriculturist

Missouri  
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Impressive, Big-Space Advertisements  
are Appearing Month-After-Month  
in all These Publications

Lion's Chemical Sales Division is working to make sure you sell more fertilizers. One way we help is by consistent advertising to farmers. This advertising emphasizes how plant foods can best serve the farmer by increasing his profits.

As for quality, you can build your own reputation on a solid basis when you depend on Lion, a leader in the field of petro-chemicals. You can depend on Lion for uniform high quality... always.

With two giant chemical plants producing around-the-clock, throughout the year, Lion, with its versatile and flexible manufacturing processes, is a dependable source of the most popular and economical types of nitrogen fertilizer materials.

It will pay you to feature and sell nitrogen fertilizers with the Lion emblem on the bag, or Lion's anhydrous ammonia. They sell easily, make consistent profits for you.

Look To LION—A Leader in Petro-Chemicals—  
For Nitrogen Fertilizers

Lion Anhydrous Ammonia • Lion Ammonium Nitrate Fertilizer • Lion Aqua Ammonia • Lion Nitrogen Fertilizer Solutions • Lion Sulphate of Ammonia

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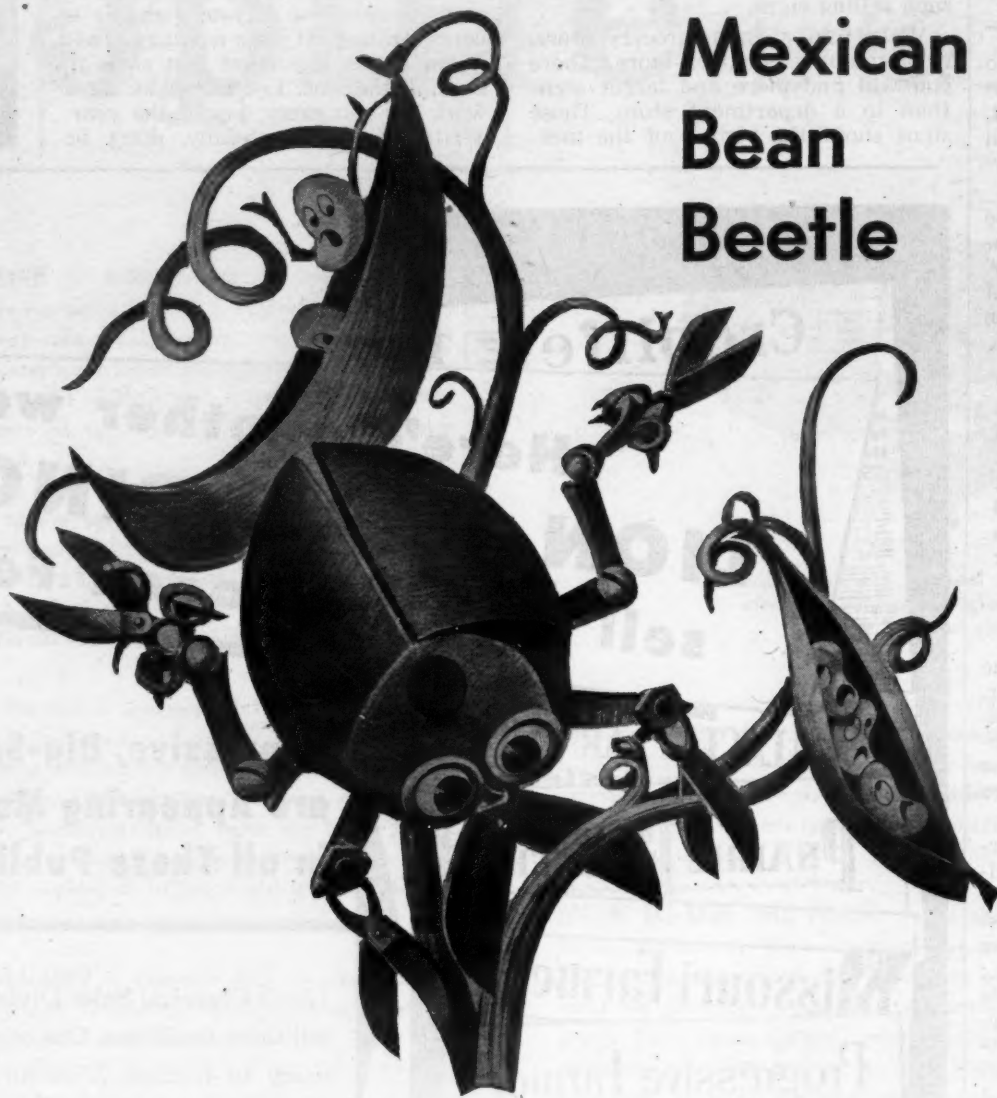


**COMPANY**  
EL DORADO, ARKANSAS



Mr. Dealer—Cut out this page for your bulletin board

## BUG OF THE WEEK



### Mexican Bean Beetle

#### How to Identify

The adult bean beetle is roughly a quarter-inch in diameter (across) and is brownish in color with spots on its back. It usually overwinters in the adult stage, usually in woodlands near bean fields.

#### Habits of Bean Beetle

After overwintering in woodlands, they leave these quarters in the spring and the female beetles lay their eggs on the underside of bean leaves. These eggs hatch in 5 to 14 days into larvae that feed mostly on the under side of the bean leaves. These larvae grow rapidly passing through 4 stages, each stage larger than the preceding one. They reach full growth in from 20 to 35 days. The full-grown larva attaches itself to the under surface of the leaf on which it has been feeding or to some nearby plant or object and changes to the pupa, or inactive stage. After 10 days or so, the adult beetle emerges from the pupa. Within 2 weeks, the female beetle is ready to deposit eggs for another brood.

#### Damage Done by Bean Beetle

As suggested by its name and as illustrated in the above cartoon, the beetle skeletonizes bean leaves by feeding on them. It stunts growth of the plant and causes considerable losses in vegetable-growing areas.

#### Control of Mexican Bean Beetle

Since the bug infests the under side of bean leaves, the problem of reaching it with pesticidal materials is complicated. For this reason, USDA says, spraying has given better results than dusting. Materials recommended in various states include Methoxychlor, 2 lb. 50% wettable powder in 100 gal. water; or sprays of derris or cube (4% rotenone content) at rate of 1½ lb. to 50 gal. Cryolite in dust form is used at the ratio of 3 lb. cryolite to 2 lb. diluent (finely ground talc or sulfur). In Colorado, toxaphene spray at the rate of 3 lb. an acre is recommended. The first application of either spray or dust should be made when Mexican bean beetles are found in the field or when eggs become numerous on the under side of leaves. Application should be repeated frequently if the insects are numerous.

Cartoon of Mexican bean beetle furnished Croplife through courtesy of E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

Previous "Bug of the Week" features are being reprinted in attractive 24-page booklet, priced at 25¢ single copies; reduced rates in quantities. Write Croplife Reprint Dept., Box 67, Minneapolis 1, Minn.



## INDUSTRY POTENTIAL

(Continued from page 1)

hay and pasture and permanent pasture.

of these two latter crops the use of plant nutrients is relatively low in relation to the desirable quantities needed to insure adequate production which, in turn, would reduce production costs for the dairy industry.

Previous reports on maximum use of plant foods for other regions, primarily with an optimum through much heavier application of plant nutrients—goals which can be attained in some extremes in national emergency. As has been noted in recent articles on this subject, farmers probably would not follow to the ultimate the recommended use of plant nutrients since their increased production would level off at a point below the chart optimum in the law of diminishing returns.

Material prepared by Mack Drake, professor of chemistry of the University of Massachusetts, indicates the results set forth in those reports comes closer to practical application in the case of the dairy industry, particularly in the problem of reduced costs. The dairy industry in these states has been caught in the cost-price squeeze notwithstanding its proximity to large urban fluid milk markets. A careful examination of the utilization of plant foods in legumes, hay and pasture in these dairy states indicates that right now there is a great deal to be desired and that desirable production goal for those crops would require some improvement in the use of plant nutrients.

In the Drake contribution to the overall report, gains in the output of corn and wheat are marked for attention as a source of sharp increases attainable through full fertilization of these crops. But it should be noted that the farm administration of Ezra Taft Benson, secretary of agriculture, is aiming its policy to better balance of farm production on a national basis. Another aspect is the prevailing price support level of these crops. For most of these states that has been determined to be outside the commercial wheat area with major exceptions of New York, Pennsylvania and Maryland. But pressure to expand the non-commercial wheat area to include a large section, not all of those states would, if selected, induce a somewhat different economic climate for expanded production through a broader application of plant nutrients.

In these states by far the best outlook for expanded uses of plant foods is for legume grass hay and pasture and permanent grass hay and pasture.

Selecting three of the major legume grass hay and pasture producing states of this region—Vermont, New York and Pennsylvania—it is shown in this report that the average use of plant foods in these states is within a very narrow range running from .3 lb. per acre in Vermont to .6 lb. in Pennsylvania and .2 lb. in New York. However, average yields in tons per acre in those states varies only .1 ton per acre. New York has the lowest per acre average use of N but is on the high side of average yields of these crops.

According to USDA reports, increased uses of N in those states would show the greatest benefit in Pennsylvania and relatively little change in New York.

Use of phosphatic materials in these states swings widely from an 8 lb. per acre average use in Vermont to a use in New York of only 2 lb. with Pennsylvania squarely in the middle ground. Expanded use of phosphatic materials in those states indicates a much more dramatic increase in yields per acre except in the case of

New York, where even with much larger applications of phosphatic materials increase in yields would be relatively small, according to the report.

Broader use of potash on farms now using these materials in Vermont would be little less than important to increased production, the report indicates. Likewise, Pennsylvania would show gains in production through an increased use of potash. Again New York farms now using potash are shown as reflecting little improvement through increased use of this important plant food.

A peculiar incident in the use of these plant foods for these three states is disclosed. In each of these states the percentage of planted acreage using these three plant

foods is the same for all three materials.

The same percentage of planted acres in these states is reported for phosphatic materials and potash.

A tentative conclusion might be reached that there may be a new market for sale of plant foods in these states to boost the production of legume grass hay and pasture and thereby point the way to lower per unit production costs for fluid milk.

In any event, only a small part of the land in cultivation in these states for the production of these crops is now being fertilized through use of the three major plant food ingredients.

The report indicates that in these states greater attention to plant food materials has been given in the past to the higher acre-value crops such as potatoes and vegetables. With the dairy industry in a period of transition perhaps this condition should be an area of exploration by chart-minded sales executives.

## Missouri Sales in First Half of Year Top 400,000 Tons

COLUMBIA, MO.—Fertilizer sales in Missouri during the first half of 1955 totaled 411,345 tons, according to the University of Missouri Agricultural Experiment Station. This included 268,648 tons of mixed goods and 142,697 tons of materials.

The mixed goods total included 75,033 tons 12-12-12, 29,244 tons 8-24-8, 27,265 tons 3-12-12, 27,102 tons 8-8-8 and 24,166 tons 4-12-4.

The average composition of the mixed fertilizers was 7.76-13.87-11.29, compared with 7.30-14.42-10.80 in 1954.

## CONSERVATION WEEK

RICHMOND—The week of Oct. 16-22 has been proclaimed by Gov. Thomas B. Stanley as "Natural Resources Conservation Week" in Virginia.

Your new source for nitrogen chemicals  
**SOHIO CHEMICAL COMPANY**  
**BEGINS SHIPMENTS**  
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### Coming Soon!!!

A complete line of nitrogen chemicals—tailor-made to suit the most complex requirements of the fertilizer industry.

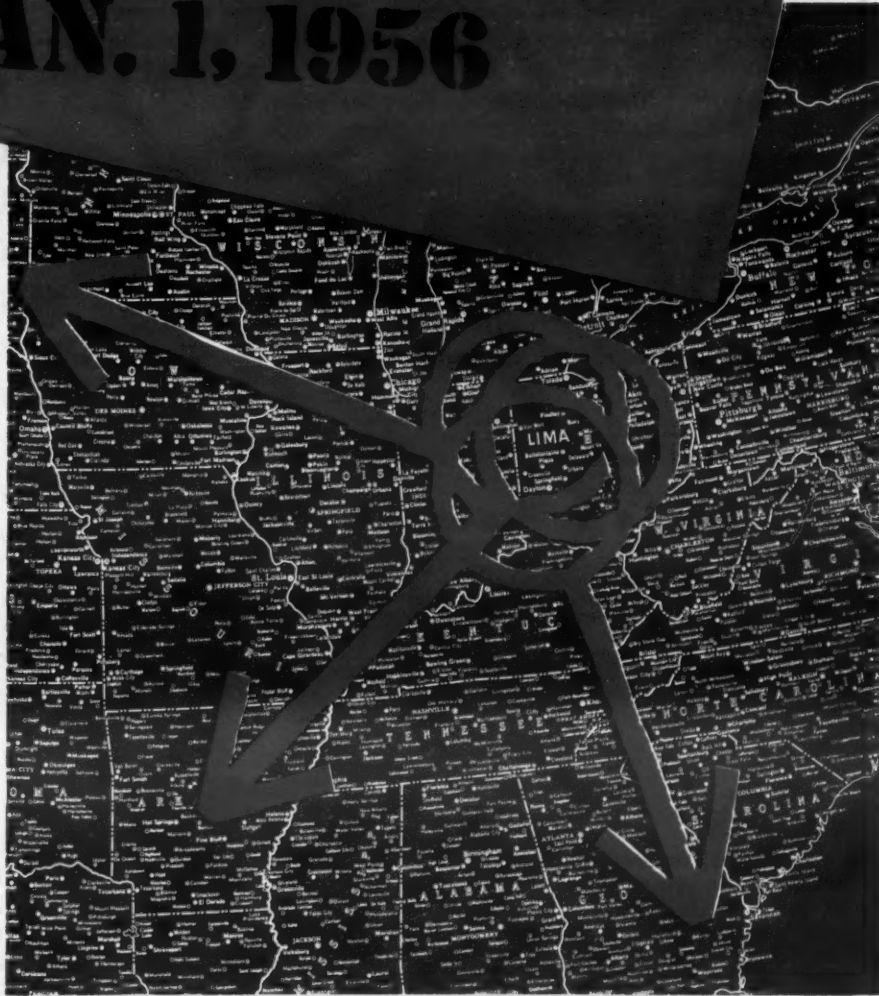
Anhydrous Ammonia    Urea  
 Aqueous Ammonia    Urea Solutions  
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### Assured source of supply

Production of our complete line of nitrogen chemicals gets underway this fall at our new Lima, Ohio plant. But... in order to serve you better during your peak season, we will accumulate most of our production in our huge storage facilities until the first of the year. Then... on January 1, 1956 we will begin shipments against contracts.



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### South Carolina Sales

CLEMSON, S.C.—South Carolina fertilizer sales during August totaled 11,866 tons, according to the State Department of Fertilizer Inspection and Analysis. This total included 8,075 tons of mixed goods.

### ZINC DEFICIENCY

EAST LANSING—Defects from a lack of zinc are showing up in some Michigan peach orchards, according to Michigan State University.

### Utah and Wyoming PHOSPHATE ROCK

All Grades  
Pearl Phosphate Co.  
153 N. Willow Ave.  
West Covina, California

### Growers Favor Quotas On Flue-Cured Tobacco

WASHINGTON — Final returns from the flue-cured tobacco marketing quota referendum, held July 23, show that the percentage of growers voting favorably remains at 97.3%, the U.S. Department of Agriculture reports. This is the same as the preliminary percentage announced July 25.

Of the 200,444 growers voting, 95.5% favored quotas for the next three years, and 1.8% favored quotas for one year only. Only 2.7% of those voting were opposed to the quotas. Since more than the necessary two thirds of those voting favored the three-year quotas, the marketing quota program will continue in effect for the 1956, 1957 and 1958 crops of flue-cured tobacco.

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## SOILS and FERTILIZERS

Fourth Edition

By **FIRMAN E. BEAR**, Research Specialist, New Jersey Agricultural Experiment Station.



1953. 420 Pages \$6.00

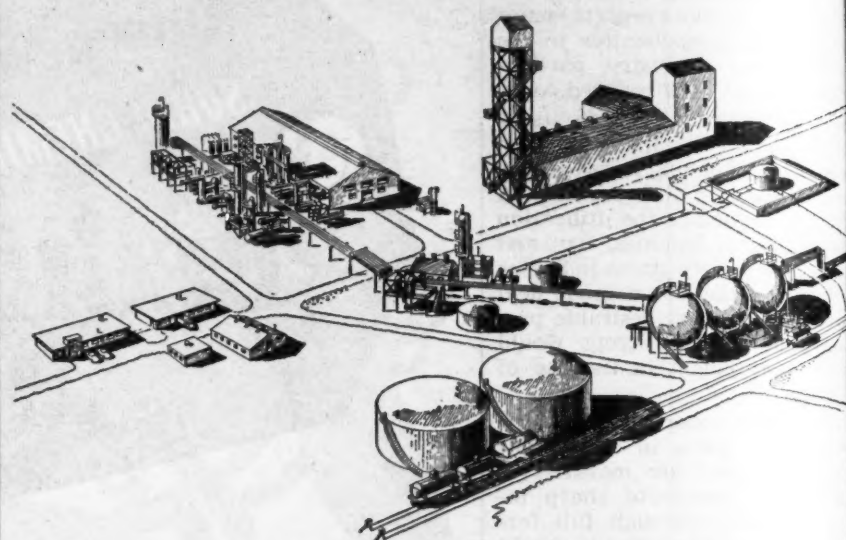
Covers in detail: soil chemicals . . . important soil elements such as nitrogen, phosphorus, calcium . . . yield prospects of crop plants . . . moisture control . . . soil management . . . mechanical operations . . . soil conservation . . . organic matter maintenance.

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**SOUTHERN NITROGEN COMPANY**  
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**NEW NITROGEN PLANT**—Malcolm Smith, chairman of the board, John Riley, president, and George V. Taylor, vice president of Southern Nitrogen Co. which will start construction of a \$14,000,000 petrochemical plant at Savannah, Georgia, this fall, examine a map of the plant site. A sketch of the plant is shown in the lower photo. The structure in the left background is the gas preparation plant where natural gas is converted into synthetic anhydrous ammonia and urea. The buildings in the center of the print are the nitric acid and nitrogen solutions unit. At upper right ammonium nitrate enters "shot" tower in liquid form and is "prilled," leaving the process in the form of dry pellets. In center foreground are tanks for storage of nitrate solution and to their right are hortonospheres for ammonia storage. Behind the hortonospheres is a fuel storage area. At the left of the picture are administration laboratory and shop buildings. Shipment of all products is made either by rail or truck. Tankcar loading areas are shown in the foreground. (See page 1 for the story.)

## Program Set for Meeting of Canada Chemicals Group

MONTREAL — The third annual conference of the Canadian Agricultural Chemicals Assn. is to be held at Ste-Adele-en-haut, Quebec, Oct. 13-14, 1955.

The meeting will open with a panel discussion on the chemical control of weeds and brush in Canada, with Dr. L. H. Shebeski, University of Manitoba, presiding. The members of the panel will be J. W. Suggitt, supervising chemist in the chemical research department of the Hydro Electric Power Commission of Ontario; H. F. Stairs, an assistant in the Field Husbandry branch of the government; H. W. Leggett, superintendent of the experimental station at Regina Sask., and J. J. Neilson, extension specialist and instructor at the Western Ontario Agricultural School, Ridgetown, Ont.

Eric L. Barry, a member of the association's publicity committee, will describe the work of the association in the field of public relations. He will be followed by Arthur G. Pinard, executive vice president of the Sherwin-Williams Co. of Canada, Ltd.,

who will describe methods of merchandising pest control products.

The morning session on the second day will be taken up by a panel discussion on Canadian regulations on administrative tolerances for insecticide chemicals in or on food.

The members of the panel will be Dr. C. A. Morrell, director of the food and drug division of the Canadian government's Department of National Health and Welfare, assisted by members of his division. Other panelists will be L. S. Hitchner, executive secretary of the National Agricultural Chemicals Assn., Washington, D.C., and Charles H. Jefferson, administrative officer, pesticides in Canada's Department of Agriculture.

The business sessions will conclude with the presentation of information on three of the newer agricultural chemicals.

The guest speaker at the banquet Oct. 13, will be Dr. J. G. Taggart, deputy agricultural minister in the Canadian government.

### INSECT CONTROL

MADISON—Nearly 50,000 farmers were given help with insect control in 1954 by the University of Wisconsin.



# MEETING MEMOS

pt. 28-30—New England Fertilizer Conference, Poland Spring House, Poland Spring, Maine.

ct. 3-5—Carolinas-Virginia Pesticide Formulators Assn., Inc., Annual Meeting, Holly Inn, Pinehurst, N.C.; J. B. Maddrey, 3111 Broad Creek Road, Norfolk 12, Va., Secretary-Treasurer.

ct. 11—Western Agricultural Chemicals Assn., Annual Meeting, Hotel Claremont, Berkeley, Cal.; C. O. Barnard, 2466 Kenwood Ave., San Jose, Cal., Executive Secretary.

pt. 23—South Carolina Plant Food Educational Society, Annual Convention, Columbia Hotel, Columbia, S.C.

ct. 10-12—Association of Official Agricultural Chemists, Annual Meeting, Shoreham Hotel, Washington, D.C.; Dr. William Horwitz, Box 540, Benjamin Franklin Station, Washington 4, D.C., Secretary.

ct. 13-14—National Nitrogen Solutions Assn., Meeting and Equipment Display, Illinois State Armory, Springfield, Ill.; Roy F. Broyhill, Dakota City, Neb., Meeting Chairman.

ct. 13-14—Canadian Agricultural Chemicals Assn., Third Annual Meeting, the Chantecleer, Ste-Adele-en-haut, Quebec.

ct. 14—Association of American Fertilizer Control Officials, Annual Meeting, Shoreham Hotel, Washington, D.C.; B. D. Cloaninger, Drawer 392, Clemson, S.C., Secretary-Treasurer.

ct. 17-18—Fertilizer Section, National Safety Congress, LaSalle Hotel, Chicago; Thomas J. Clarke, Chairman.

ct. 19-21—First International Conference on the Use of Antibiotics in Agriculture, Washington, D.C.

ct. 24—Salesmen's Association of the American Chemical Industry, Fourth Annual Sales Clinic, Roosevelt Hotel, New York.

ct. 27—Middle West Soil Improvement Committee, Annual Meeting, Sherman Hotel, Chicago; Z. H. Beers, Executive Secretary, 228 N. LaSalle St., Chicago, Ill.

Nov. 2-8—Annual Convention, Pacific Northwest Plant Food Assn., Pilot Butte Inn, Bend, Ore.; Leon S. Jackson, 702 Lewis Bldg., Portland, Ore., Secretary.

Nov. 2-5—Third annual Mid-Atlantic Farm and Home Show, Convention Hall, Atlantic City, N.J.; William A. Haffert, Jr., Sea Isle City, N.J., executive vice president.

Nov. 3-4—Northeastern Division, American Phytopathological Society, Eastern States Farmers Exchange, Inc., 26 Central St., West Springfield, Mass. B. H. Davis, Department of Plant Pathology, Rutgers University, New Brunswick, N.J., secretary.

Nov. 4—Fertilizer Section, South Carolina Annual Accident-Prevention Conference, Hotel Francis Marion, Charleston, S.C.; Anton L. Foster, International Minerals & Chemical Corp., General Chairman.

Nov. 7-8—California Fertilizer Assn., Thirty-second Annual Convention, Hotel Mark Hopkins, San Francisco; Sidney H. Bierly, Executive Secretary and Manager, 475 Huntington Drive, San Marino, Cal.

Nov. 8-10—17th Annual New York State Insecticide, Fungicide and Application Equipment Conferences; Bibbins Hall, G.L.F. Exchange, Ithaca, N.Y.; C. E. Palm, Cornell University, Ithaca.

Nov. 29-Dec. 2—Entomological Society of America, Netherlands Plaza Hotel, Cincinnati.

Dec. 5-7—Agricultural Ammonia Institute, Kansas City; Jack F. Criswell, Executive Vice President, Claridge Hotel, Memphis, Tenn.

Dec. 5-7—Chemical Specialties Manufacturers Assn., 42nd Annual Convention, Roosevelt Hotel, New York; H. W. Hamilton, 50 E. 41st St., New York 17, N.Y., Executive Secretary.

Dec. 8-9—Michigan Fertilizer and Lime Conference, Michigan State College, East Lansing.

Dec. 15-16—Beltwide Cotton Production Conference, Hotel Peabody, Memphis, Sponsored by the National Cotton Council.

Dec. 23-30—American Phytopathological Society, Atlanta, Ga.; Glenn S. Pound, University of Wisconsin, Madison, Wis., Secretary.

1956

Jan. 4-6—Weed Society of America, Charter Meeting, Hotel New Yorker, New York; W. C. Shaw, U.S. Department of Agriculture, Beltsville, Md., Secretary-Treasurer.

Jan. 15-17—New Mexico Grain & Feed Dealers Assn., Annual Con-

vention, Hilton Hotel, Albuquerque, with Special Portion for Fertilizer and Farm Chemical Dealers; H. B. Henning, Albuquerque, Secretary.

Jan. 16-18—Southern Weed Conference, Ninth Annual Meeting, Hotel Jung, New Orleans; Dr. E. G. Rodgers, Florida Agricultural Experiment Station, Gainesville, Secretary-Treasurer.

Jan. 26-29—Agricultural Aircraft Assn., Inc., Sixth Annual Convention, Wilton Hotel, Long Beach, Cal.; Wanda Branstetter, Route 3, Box 1077, Sacramento, Cal., Executive Secretary.

Feb. 15-17—California Weed Control Conference, Sacramento and Davis, Cal.; Oliver A. Leonard, Botany Dept., University of California, Davis, Cal., Secretary.

Feb. 15-17—Western Weed Control Conference, Sacramento and Davis, Cal.; W. C. Robacker, U.S. Department of Agriculture, Nevada Agricultural Experiment Station, Reno, Nev., Secretary-Treasurer.

March 14-18—National Agricultural Chemicals Assn., Spring Meeting, Hollywood Beach Hotel, Hollywood, Fla.; Lea S. Hitchner, NAO Executive Secretary, 1145 19th St. N.W., Washington 6, D.C.

June 28-30—Association of Southern Feed & Fertilizer Control Officials, 14th Annual Convention, Hotel Roanoke, Roanoke, Va.; Bruce Poundstone, Kentucky Agricultural Experiment Station, Lexington, Ky., Secretary-Treasurer.

## TVA Extends Research, Testing Contracts with Experiment Stations

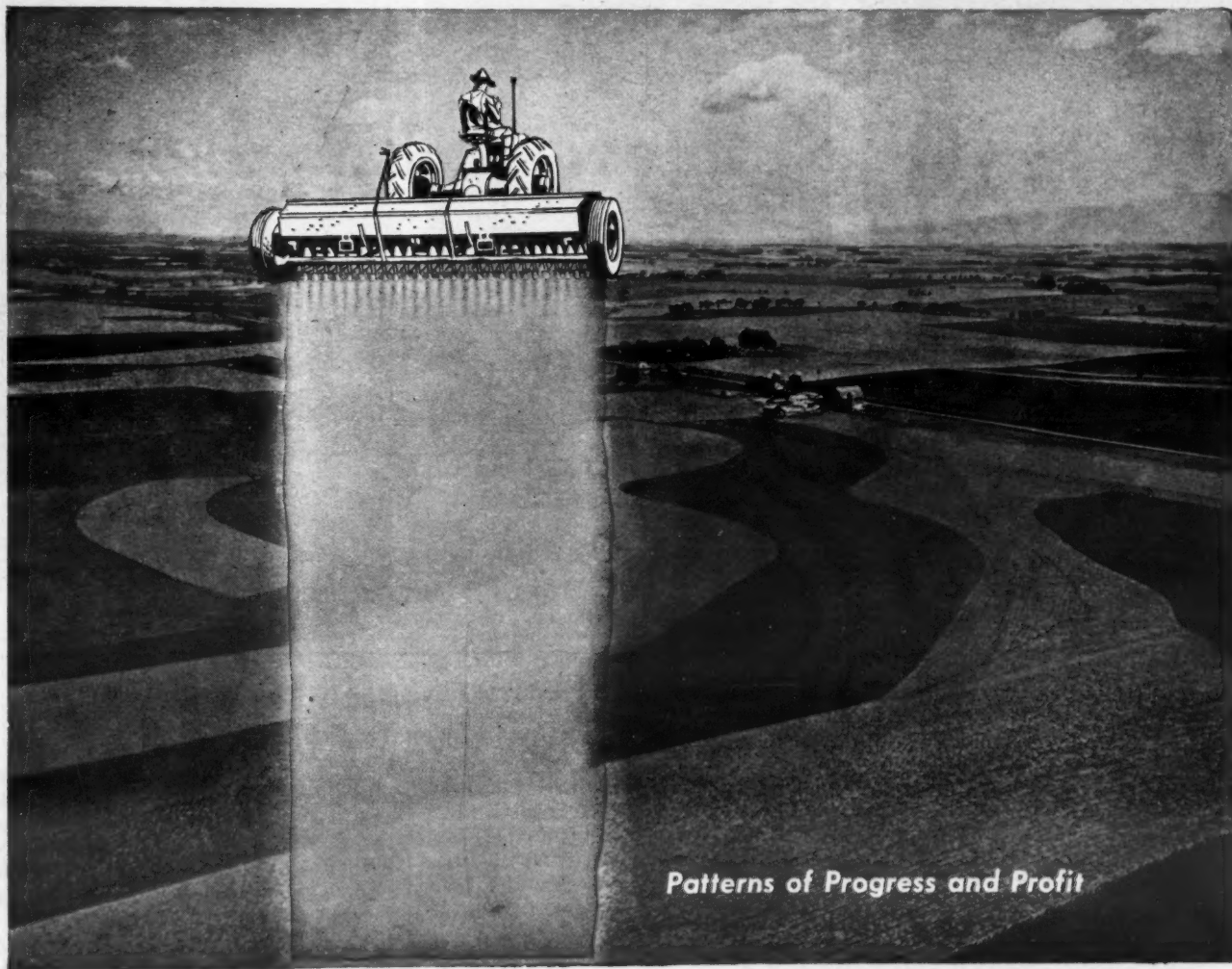
KNOXVILLE, TENN.—The Tennessee Valley Authority has announced a five-year extension of its fertilizer research and testing contracts with agricultural experiment stations in eight states.

Included are the seven Tennessee Valley states of Alabama, Georgia, Mississippi, Tennessee, Virginia, Kentucky and North Carolina and the state of Washington.

In general the contracts provide for the testing of TVA fertilizer in laboratory, greenhouse and field experiments to determine the efficiency of the products.

### CLEAN BEANS

BATON ROUGE—Recent changes in soybean grades mean that Louisiana growers must sell somewhat cleaner beans this year than have been required in the past to get top prices, says T. H. Milliken, associate agronomist with the Louisiana State University Agricultural Extension Service. Ridding soybean fields of keales weeds and coffee weeds is particularly important, Mr. Milliken said. Insect damage should be controlled. A larger acreage of soybeans than usual was planted in Northeast Louisiana this year, Mr. Milliken says.



Patterns of Progress and Profit

(Photo—Courtesy Soil Conservation Service, U.S.D.A.)

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## Special Sales Staff For Monsanto Label Pesticides Named

ST. LOUIS—Monsanto Chemical Co. has announced the creation of a special sales staff within its Organic Chemicals Division to market the farm chemicals which the company is offering for the first time under its own label to distributors in a 15-state midwestern area.

Charles P. Zorsch, associate manager of the division's Agricultural Chemicals Dept., has been named to head up the new farm chemicals section within his department.

Mr. Zorsch will coordinate the efforts of a five-man team of agriculturally trained sales representatives operating from five farm chemicals field sales headquarters.

In addition, Dr. Lawrence H. Hannah, agronomist with the division's Development Department, will assist the new farm chemicals section in market development for new products of Monsanto's agricultural chemicals research program.

The farm chemicals sales representatives and their territories are as follows:

Edwin M. Billings of Ankeny, Iowa has been assigned to Illinois, Indiana,



Charles P. Zorsch

Michigan, Ohio, Wisconsin and western Kentucky. He will make his headquarters at an Indiana location to be designated. He will divide his sales efforts between Monsanto's present formulated line and special test marketing of new farm chemicals.

Charles A. Leonard of St. Louis, assigned to the above six states with Mr. Billings, will operate from a northern Illinois headquarters to be



Dr. Lawrence H. Hannah

designated. He will devote full-time efforts to marketing Monsanto's present farm chemicals line.

Robert L. Olcott of Des Moines, Iowa, will contact distributors in Iowa and Nebraska from a sales headquarters located in Des Moines. Donald D. Reichert of Minneapolis will be headquartered there to handle sales coverage in Minnesota, North Dakota, South Dakota and Montana for Monsanto's farm chemicals. Jack G.



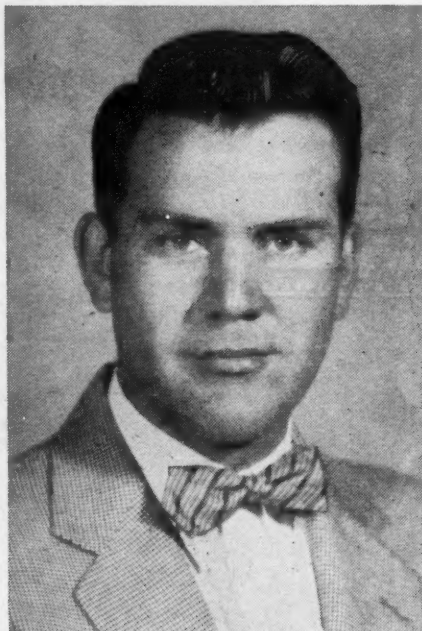
Edwin M. Billings

Rotramel of Kansas City, Mo., will operate from headquarters there servicing distributors in Missouri, Kansas and eastern Colorado.

The farm chemicals sales force in the field now setting up the necessary distribution for Monsanto's initial line of formulations. To date 18 products have been named to the line which includes weed killers, brush killers, insecticides and crop desiccants.



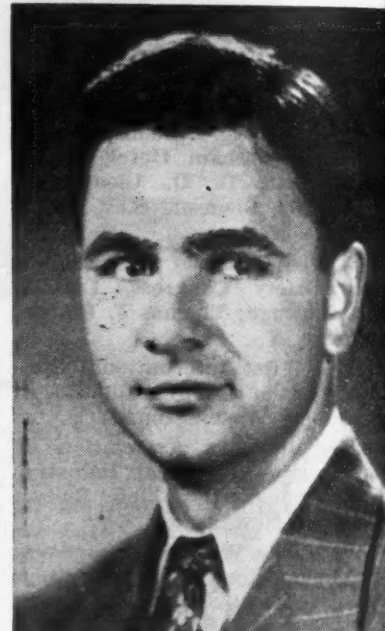
Charles A. Leonard



Robert L. Olcott



Donald D. Reichert



Jack G. Rotramel

## Massachusetts Estimate on Flood Loss: \$2½-3 Million

BOSTON—Latest estimate for crop damage to Massachusetts farms is between \$2,500,000 and \$3,000,000 as the result of the floods left by Hurricane Diane and worsened by breaking dams and overflowing rivers.

Farmers are eligible for flood damage money, not for crops, but where either land or farm buildings have been damaged.

Many of the farms are still covered with silt and rocks. A few of them have been entirely denuded of topsoil, in some cases, particularly around Westfield, where the river changed its course, some farms are permanently flooded.

The late crops of sweet corn, on the verge of maturing and ready for picking, were hit especially hard. In parts of Concord where the Sudbury River overflowed its banks, acres of corn were destroyed.

This year was just right to produce bumper crops, Walter E. Piper, Jr., marketing specialist for the State Department of Agriculture, said. There were no late frosts, no prolonged

drouths in midsummer "and it looked for once as if the farmer was going to make a dollar—then came the flood."

The apple growers are the only members of the Massachusetts farm family that can feel optimistic. They were hit hard in last year's hurricanes Carol and Edna. From all indications, Massachusetts is going to have one of the biggest apple crops in history.

The heavy rains actually did the orchards more good than harm, Mr. Piper said, because most of them were on high ground and they were not flooded to any great extent.

Picking of McIntosh apples is now starting and growers expect to make money this year barring another hurricane.

## Downy Mildew Found on Long Island

WASHINGTON—Paul R. Miller, Plant Industry Station, U.S. Department of Agriculture, Beltsville, Md., reports in the Sept. 9 Plant Industry Situation that downy mildew on cucumbers was common on Long Island and had been found in Bucks County, Pa. It was causing considerable damage on all growth stages of cucumbers and squash on Long Island. Downy mildew also was infecting cantaloupe fields in South Carolina.

## Bemis Bag Official To Retire Sept. 30

ST. LOUIS, MO.—Frank M. Ewer, director of the Boston burlap department of Bemis Bro. Bag Co., will retire Sept. 30 after 59 years of service with the company. He will settle on Cape Cod, where he has summered for many years.

Mr. Ewer joined Bemis in 1896. He was manager at San Francisco from 1906 to 1911, when he returned to Boston as assistant burlap buyer. In 1925 he became head of the Burlap department.

In addition to his developmental work in the buying and utilization of burlap, Mr. Ewer played an important part in establishing the Bemis process for classifying Indian jute mills, a classification that is accepted as standard throughout the industry. This work took him to England, Scotland and India.

Mr. Ewer was treasurer of the company from 1921 to 1946. He was elected a director in 1921 and vice president in 1940.

## JOINS UNIVERSITY

EL PASO, TEXAS—Dr. Lee Stith, entomologist with the Ysleta Experiment Station, has left his position to accept a place with the University of Arizona. He will be with the agricultural research division there.

## Dr. Robert M. Salter, Head of Soils Research at USDA, Dies

WASHINGTON—Dr. Robert M. Salter, 63, chief of soils research, U.S. Department of Agriculture, died Sept. 13 at his home at Silver Spring, Md. He was formerly head of Soil Conservation Service.

Dr. Salter was a native of Indiana and joined federal service in 1914 after teaching at Ohio State University and serving as director of the North Carolina Agricultural Experiment Station from 1942 to 1951. He was chief of soils and agricultural engineering, later being transferred to research and head of SCS.

## Anhydrous Output Declines in July

WASHINGTON—Production of synthetic anhydrous ammonia during July totaled 236,759 short tons, down 9% from 261,285 short tons in June, according to the Bureau of Census, U.S. Department of Commerce.

Output of ammonium nitrate, original solution in July was 148,210 short tons, a drop of 4% from 154,904 tons in June. Phosphoric acid production was 197,401 short tons in July, down 24% from 261,312 short tons in June.



## Aphids Widespread in Southwest Nebraska

LINCOLN, NEB.—Dr. Roscoe E. Entomology Dept., University of Nebraska, reports widespread infestations of the spotted alfalfa aphid in southwest Nebraska. He said that the situation is potentially serious.

## ACREAGE DIVERSION

(Continued from page 1)

the new car today. Those who can produce figures will find that the horseshoe costs more than a new Ford in cents per pound of metal and the Ford can take you further and much faster than the horse. It is with the plant food and the pesticide industry.

The farm community is reaching maturity according to observers here. It faces the need of adjusting per unit costs of production to the same measure which the Fords, General Motors and Chryslers have already made.

Top USDA officials reported to Croplife last week that the tale of diversion of cropland through rental or land purchase schemes meets with no favor at headquarters. The secretary's statement on his return from Europe should confirm that conclusion.

An official said that plans to promote removal of poor land from field crop production were "old hat" at USDA. It has been talked virtually to death by the most sincere USDA soil use officials.

It would be wise to ignore the political post-election forecasts—including those which predict a removal of field crop acreage through rental payments or government land purchase. The best that can be expected would be some further advance in soil conservation payments under a tight restricted program.

The core of the whole situation rests in the plant food and pesticide industries in the last analysis. No matter what plan or shape the USDA policies may take, the farm community will have to face up to the fact that it is big business and will have to compete profitably for the consumer's attention.

Already the consumer is eating better than ever before in national history. Next year's menu must be better if the farm community will follow the leadership of the big mass production industries.

As farm income falls the only solution, according to experts here, is to lower the cost of production per unit. And there is the place where the plant food and pesticide industry comes on the stage.

## WESTERN FIRM

(Continued from page 1)

William Siman of Triangle, and Brayton Wilbur of Wilbur-Ellis.

A plant which will have a production capacity of 200 tons of fertilizer a day will be completed and ready for operation about January 1. Ground was broken following the formation of the new firm in August.

General manager of Western States is W. L. Dixon, Jr., who had held a similar position with the Best Fertilizer Co. of Oakland. The board of directors is composed of representatives of each of the three cooperating companies.

The brand under which the new fertilizers will be manufactured has not yet been selected, but a name is expected to be chosen before manufacturing starts at the beginning of the year.

## SOUTHERN NITROGEN

(Continued from page 1)

trate. Natural gas, which will be the principal raw material, will be supplied by Southern Natural Gas Co. of Birmingham.

The new plant will employ about 200 with an annual payroll of approximately \$1,000,000. As projected, the plant will consume more than 3½ billion cubic feet of interruptible natural gas and 84 million kilowatt hours of electricity annually. Electric power requirements will be supplied by Savannah Electric and Power Co.

The company has completed arrangements for raising \$18,000,000 in part through a long-term insurance company loan and in part through the sale of securities. The \$4,000,000 remaining after allocating construction costs will be used for pre-operating expense and working capital.

Mr. Riley was formerly vice president in charge of sales and a director of Spencer Chemical Co. Mr. Smith, a limited partner of Dean Witter & Co., was formerly a partner of J. H. Whitney & Co. and Gloré Forgan & Co. and a director of Spencer Chemical Co., Rexall Drug Co. and Byron Jackson Co. Mr. Taylor was formerly director of product sales for Spencer Chemical.

Mr. Riley said that the project will be the first synthetic nitrogen plant to be located in the large nitrogen consuming area comprising the South Atlantic states.

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Gilbeart H. Collings

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### PLANT GROWTH SUBSTANCES (1953)

L. J. Audus, Professor of Botany, Bedford College, University of London

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### PLANT REGULATORS IN AGRICULTURE

Dr. Harold B. Tukey

Published September, 1954. A textbook giving background material for county agents, farmers, citrus growers, nurserymen, gardeners; providing fundamentals and general principles; covers encouragement of roots by plant regulators, control of flowering and fruit setting, parthenocarpy, abscission, prevention of preharvest fruit drop, delaying foliation and blossoming, maturing and ripening, inhibition of sprouting and weed control. Brings together specialized knowledge of 17 authorities in the field, with two chapters written by Dr. Tukey, head of department of horticulture at Michigan State College. 269 pages ..... \$5.50

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## VIEWPOINT

### Crop Pest Control Problems Are Here to Stay

Only a few thousand years ago man started to produce his food by raising crops. In this trivial fraction of the world's history, the new culture was so successful that most of the habitable parts of the world have been transformed—wild vegetation over vast areas has been removed.

From hundreds of thousands of wild plants a few have been chosen, drastically altered by breeding and selection for a specific purpose, and multiplied enormously at the expense of others. This interference with the biological balance has had many undesirable consequences that keep yields below what they could be.

In most natural habitats, insects and diseases do not have an easy time. Their activities are greatly curtailed because most pests have a restricted host range; that is to say, they attack only a few kinds of plants. The vegetation in most wild habitats is a mixture of many different species and if one plant is attacked its neighbors probably are different and not susceptible to the same pests so that each victim has to be found and attacked singly.

Growing a crop means replacing variety with quantity and this tips the scale far over in favor of the pests. It increases the number of potential victims because all are the same species, all susceptible. Spread of the pest, instead of the chance business it was, becomes a certainty. Continuous cropping with the same variety greatly accentuates the problem.

To increase food production in the future we must look less to increased acres under cultivation and more to increased yields per acre. The "new land" of the future will be cleared in the laboratories and test plots of universities, experiment stations, and industry where methods and materials will be devised to save crop and animal products now lost to insects, diseases, and weeds.

Research for plenty calls for a better understanding of how to control these pests so that the tremendous losses that they now cause may be prevented. If we are to keep ahead in pest control, the colleges and universities, the government, and private agencies and industries must work closely together in the pooling of all knowledge and facilities.

The control of insects, diseases, and weeds is at present about 50% effective. National crop loss is close to 11 billion dollars annually or 27% of our total agricultural production. If the present best known methods of control were used, this loss could be reduced by approximately 25%. The remainder, 7½ billion, will be reduced by methods yet to be formulated and involve new chemicals, new machinery, pest resistant varieties, and new cultural practices.

Each year a number of chemicals fails to fulfill the role for which they were established because some insects learn to live with the chemicals which once killed them. New chemicals will have to be developed to control these insecticide-resistant pests. Moreover, there are new insects and diseases appearing constantly which require a continuous research effort to develop new chemicals and control measures.

Many insects and disease-producing organisms live from year to year in the soil and new chemicals and new types of application equipment will be required to bring them under control. Bacteria, fungi, nematodes, insects, and weed seeds—the soil-pest complex—exist under every acre of our crop and forest land.

Their cost to agriculture is great as evidenced

by the fact that the application of soil sterilants or fumigants often means the difference between no crop at all and a highly profitable crop. An increase of 25 to 50% in yield following fumigation is commonplace.

Furthermore, many foliage-feeding insects spend part of their life cycle in the soil and it is probable that a number of these pests will be controlled satisfactorily in the future by the application of insecticides to the soil. The goal of many researchers is to develop a single chemical or a mixture of chemicals that will give effective and practical control of all soil pests.

There are a great many bacterial and virus diseases, as well as nematodes and insects, that exist only on the inside of plants where they are beyond the reach of presently used chemicals and natural enemies. The type of chemical required to control these denizens is one that will penetrate the plant and be circulated in the sap stream throughout all portions of the plant.

These materials are commonly referred to as systemics and they fall into two general classes: (1) compounds synthesized from inorganic or organic materials, and (2) the antibiotic type of material resulting from fermentation processes set up by micro-organisms. At present a number of systemics is appearing on the horizon and in the future it may be expected that many insects, diseases, and nematodes not now controllable will be economically controlled by these materials.

**Treating crop seeds with systemics may kill disease germs within the seeds and even provide protection against insects, diseases, and nematodes for the entire life of the plant.**

No less important than the chemical approach to pest control is the development of pest-resistant varieties with superior horticultural and/or agronomic qualities. Much valuable germ plasm is available to plant breeders for varietal improvement. For example, in potato a source of resistance to most of the insects and diseases that attack the crop has been located.

The job to be done is to combine resistance not only to one but to all of the important pests of a particular crop in a single variety so that a satisfactory crop can be produced with fewer applications of a pesticide. When farmers are provided with both chemical control measures and superior pest-resistant varieties, better disease and insect control will be obtained than with either one alone.—J. P. Slesman, in "Pesticide News," Ohio Pesticide Institute Publication.

### "The South Looks Ahead"

"As important as mechanization has been in the improvement of southern agriculture, we should not overlook the effect of measures that have been taken to increase per acre yields. Here in the South the use of more fertilizer, improved seed, hybrid corn, more effective insect and disease control, and in some cases better land selection, have resulted in much higher yields. Overall crop production per acre for the past five years was about 25% above the 1935 to '39 average. Since 1940, the use of commercial fertilizer has just about doubled. In the Delta, the use of anhydrous ammonia has reduced the cost of applying nitrogen on larger farms by as much as one-fourth. Expenditures for sprays and dusts to control insects and plant diseases have increased greatly in most areas of the South."—Earl L. Butz, Assistant Secretary of Agriculture, in recent speech at Mississippi State College.



CROPLIFE is a controlled circulation journal mailed to those responsible for the production and distribution of fertilizer and other farm chemicals and to retail dealers of the agricultural chemical industry in the U.S. To those not on the controlled list, CROPLIFE is available at \$5 for one year, \$9 for two years (\$8 a year outside the U.S. and possessions). Single copy price, 25¢.

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## Aerial Brush Control Experiment Being Studied in Missouri

COLUMBIA, MO.—The field crops department of the University of Missouri and the Agricultural Research Service and Forest Service of the U.S. Department of Agriculture are cooperating in an aerial brush control experiment in the Clark National Forest in Dent County, Mo.

The work is being done under the direction of Hale Fletchall, University field crops department and agronomist for the USDA; Clark Martin, range conservationist for the Forest Service stationed at the university, and Nelson Rogers, superintendent of

the Sinkin Experimental Forest, Salem.

According to Mr. Fletchall, the experiment has five main objectives. It will compare 2,4,5-T with 2,4,5-TP as herbicides for killing undesirable hardwoods and it will compare the effectiveness of single treatments with repeated treatments at one or two year intervals.

And the experiment will determine whether or not an airplane is a practical way to apply herbicides to undesirable hardwoods and whether aerial spraying will give selective control of hardwoods without harming pine plantings. In connection with this, the growth rate of pines freed from competition with hardwoods will be compared with the growth rate of those not treated with herbicides.

Finally, the experiment will determine the effect of this method of release on the stands and growth of native grasses and other forest vegetation being held back by the hardwood growth.

In the experiment, 36 acres of forest land were sprayed. Half of the area was sprayed with 2,4,5-T at the rate of two pounds an acre and the other half with 2,4,5-TP at the same rate.

Both of the chemicals were diluted with diesel oil with five gallons of the mixture being applied per acre. The aerial applicator flew courses 29 feet apart when spraying to get even coverage.

Retreatments are planned for 1956 or 1957 on half of the area receiving each treatment, Mr. Fletchall says, depending upon the effectiveness of the first treatment and results of other research.

## Bart Bonzer Named President of Iowa Ammonia Distributors

DES MOINES—Bart Bonzer of the Ag Service Co., Charles City, was elected president of the Iowa Agricultural Ammonia Distributors Assn. at a recent meeting here. He succeeds B. A. Frankl, Algona.

Other officers are Jerry Jirovsky, Blencoe, first vice president; Howard Griener, Keota, second vice president; C. E. Lakin, Emerson, third vice president, and R. J. Durbrow, Dubuque, secretary-treasurer. Other directors are James Andrew, Jefferson; W. E. Birdsall, Osage, and Tully Talbot, Audubon.

## George B. Baylis New Assistant Treasurer Of Hercules Powder

WILMINGTON—George B. Baylis, secretary of Hercules Powder Co. since 1948, has been elected an assistant treasurer of the company. In his new position, Mr. Baylis will be responsible for problems involving insurance, banking, and finance.

J. H. Tyler McConnell, assistant to the president of Hercules, has been elected secretary to succeed Mr. Baylis.

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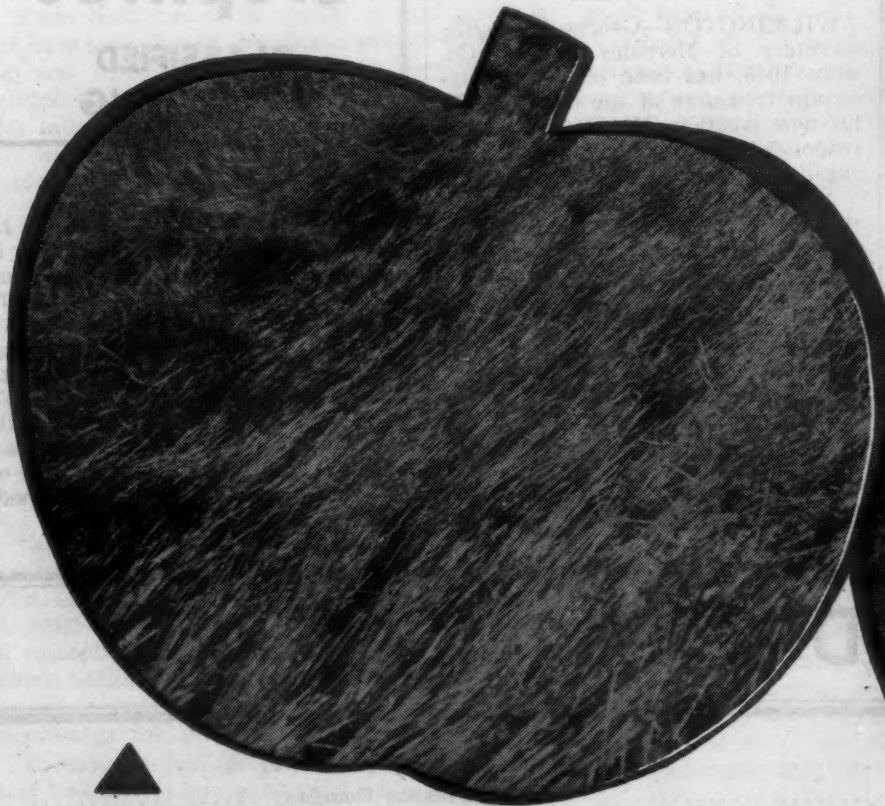
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